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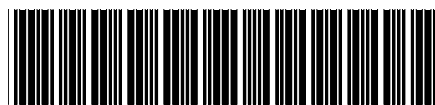
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Dumper

5001, 6001



OPERATOR'S MANUAL



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www.wackerneuson.com

Documentation

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The cover features the machine with possible optional equipment.



**WACKER
NEUSON**

Wacker Neuson Linz GmbH

Haidfeldstr. 37

A-4060 Linz-Leonding

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Table of contents

Introduction	1
Important information on this Operator's Manual	1-1
Brief description	1-2
Operator qualifications	1-2
EC Declaration of Conformity for 5001 dumper	1-3
EC Declaration of Conformity for 6001 dumper	1-4
Type labels and component numbers	1-5
Swivel dump bucket 5001/6001	1-7
Front dump bucket 6001	1-8
Labels	1-9
Safety Information	2
Safety Symbols Found in this Manual	2-1
Warranty	2-2
Designated use	2-2
General Conduct and Safety Instructions	2-2
User training and knowledge	2-3
Preparing for use	2-3
Modifications and spare parts	2-3
Staff Qualifications and Basic Responsibilities	2-4
User/owner responsibility	2-4
Repair person qualifications	2-4
Safety instructions regarding operation	2-4
Preparing for use	2-4
Startup and shutdown	2-4
.....	2-5
Work area awareness	2-5
Danger area awareness	2-5
Operating the machine	2-5
Special operating notes	2-6
Carrying passengers	2-6
Mechanical integrity	2-6
Driving on public roads	2-6
Trailing and Transport	2-7
Trailers	2-7
Transport	2-7
Temperature Range	2-7
Safety Guidelines for Maintenance	2-7
General maintenance notes	2-7
Personal safety measures	2-8
Preparing for maintenance and repair work	2-8
Performing maintenance and repairs	2-8
Special hazards	2-9
Battery	2-9
Tracks (track dumpers)	2-9
Electric energy	2-9
Safety Guidelines while using Internal Combustion Engines	2-10
Guidelines for running the engine	2-10
Guidelines for fueling the engine	2-11
Operation	3
Description of components	3-2
Control stand	3-4
Instrument panel	3-6
Putting the machine into operation	3-8
Safety instructions	3-8



Putting the machine into operation for the first time	3-8
Running-in period	3-8
Check lists	3-9
Start-up checklist	3-9
Operation checklist	3-10
Parking checklist	3-10
Indicators and warning lights: overview	3-11
Driving the dumper	3-14
Preheating start switch: overview	3-14
Before starting the engine	3-14
Starting the engine: general	3-14
Procedure	3-15
When the engine has started	3-16
Engine warm-up	3-16
Jump-starting the engine (supply battery)	3-16
Special instructions for traveling on public roads	3-18
Traveling operation	3-18
Accelerator pedal	3-19
Hydraulic brake	3-19
Parking brake	3-19
Hazard warning system	3-20
Low/high speed	3-20
Operating on slopes	3-21
Specific safety instructions	3-21
Driving on slopes with a loaded dump bucket	3-21
Driving across slopes	3-21
Parking the machine	3-22
Loading the machine	3-23
Seat adjustment	3-24
Weight adjustment	3-24
Horizontal adjustment	3-24
Backrest adjustment	3-24
Seat belt	3-25
Light system	3-26
Road travel lights	3-26
Multifunctional lever	3-27
Interior light (cab option)	3-27
Rotating beacon (option)	3-27
Working lights (cab option)	3-28
Cab heating and ventilation	3-28
Air conditioning (option)	3-29
Washer system	3-29
Tank for washer system	3-30
Doors	3-31
Door arresters	3-32
Working with the machine	3-33
General safety instructions	3-33
Front dump bucket operation	3-34
Swivel dump bucket operation	3-35
Rollbar	3-36
Towing	3-37
Opening the high-pressure circuit	3-37



Articulated steering locking bar	3-38
Locking the control lever (5001)	3-38
Locking the control lever (6001)	3-39
Lifting the machine	3-40
Loading and transporting the machine	3-41
Tying down the machine	3-42
Battery master switch	3-42
5001	3-42
6001	3-43
Engine cover (machines without cab)	3-44
Troubleshooting.....	4
Engine trouble	4-1
Maintenance	5
Introduction	5-1
Maintenance strut	5-2
Maintenance strut 5001	5-2
Front dump bucket maintenance strut (6001)	5-3
Swivel dump bucket maintenance strut (6001)	5-4
Fuel system	5-5
Specific safety instructions	5-5
Refueling	5-5
Stationary fuel pumps	5-6
Diesel fuel specification	5-6
Bleeding the fuel system	5-7
Replacing the fuel filter (Deutz diesel engine)	5-8
Engine lubrication system	5-9
Checking the oil level	5-9
Filling up engine oil	5-10
Engine cooling system	5-11
Checking/filling up coolant	5-11
Specific safety instructions	5-12
Air filter	5-14
Replacing the filter	5-15
V-belt	5-16
Checking V-belt tension	5-16
Retightening the V-belt	5-17
Hydraulic system	5-18
Specific safety instructions	5-18
Checking the hydraulic oil level	5-20
Filling up hydraulic oil	5-21
Changing hydraulic oil	5-22
Fouling indicator for hydraulic oil filter	5-22
Replacing the hydraulic oil filter element	5-22
Important information for the use of biodegradable oil	5-23
Checking hydraulic pressure lines	5-24
Specific safety instructions	5-24
Tires	5-25
Inspection work	5-25
Wheel change	5-26
Axles	5-27
Checking the oil level and filling up oil	5-27
Draining oil	5-27
Electric system	5-28
Specific safety instructions	5-28
Service and maintenance work at regular intervals	5-28
Instructions concerning specific components	5-29



Alternator	5-29
Battery	5-30
General maintenance work	5-31
Cleaning	5-31
General instructions for all areas of the machine	5-31
Exterior of the machine	5-32
Engine compartment	5-32
Threaded fittings and attachments	5-32
Pivots and hinges	5-32
Fluids and lubricants	5-33
Maintenance plan (overview)	5-35
Lubrication plan 5001	5-38
Lubrication plan 6001	5-39
Specifications.....	6
Chassis	6-1
Engine	6-1
Drive Pump	6-1
Brakes	6-2
Steering system	6-2
Work hydraulics	6-2
Dump bucket	6-2
Drive specifications	6-3
Electric system 5001	6-4
Fuse box	6-4
Relays	6-4
Electric system 6001	6-5
Fuse box	6-5
Relays	6-6
Tires	6-7
Noise levels	6-7
Coolant compound table	6-7
Dimensions model 5001	6-8
Dimensions model 6001F (front dump bucket)	6-9
Dimensions model 6001S (swivel dump bucket)	6-10
Dimensions model 6001S (swivel dump bucket) with cab	6-11

**A**

Abbreviations	1-1
Air filter	5-14

B

Biodegradable oil	5-23
-------------------------	------

C

Check lists	3-9
Crane-handling bracket	3-40

D

Driving on public roads	3-18
Driving the dumper	3-14

F

Fastening the seat belt	3-25
Fluids and lubricants	5-33

H

Heating	3-28
---------------	------

I

Important information	
On this Operator's Manual	1-1
Indicators	3-11
Instrument panel overview	3-2, 3-3, 3-6
Interior light	3-27

L

Labels	1-9
Legal regulations	1-2

M

Machine	
Brief description	1-2
Loading and transporting	3-41
Maintenance	
Air filter	5-15
Biodegradable oil	5-23
Checking the coolant level	5-12
Checking the engine oil level	5-9
Checking the hydraulic oil level	5-20
Cleaning	5-31
Electric system	5-28
Engine and hydraulics cooling system	5-11
Engine lubrication system	5-9
Filling in engine oil	5-10
Filling up hydraulic oil	5-21
Fluids and lubricants	5-33
Fuel system	5-5
General maintenance work	5-31
Hydraulic pressure lines	5-24
Hydraulic system	5-18
Instructions concerning specific components	5-29
Maintenance plan	5-35
Pivots and hinges	5-32
Service and maintenance work at regular intervals	5-28
Threaded fittings	5-32
Tires	5-25
V-belt	5-16

N

Noise levels	1-9, 1-10
--------------------	-----------

O

Operation	3-1
Before starting the engine	3-14
Control stand	3-4
Description of components	3-2
Instrument panel	3-6
Instrument panel overview	3-2, 3-3, 3-6
Parking the machine	3-22
Seat belt height adjustment	3-25
Starting the engine	3-14

P

Preheating start switch	3-14
Putting into operation	3-4
Check lists	3-9
Putting the machine into operation for the first time	3-8
Safety instructions	3-8

R

Refueling	5-5
Rollbar	3-36
Running-in period	3-8

S

Seat adjustment	3-24
Backrest adjustment	3-24
Horizontal adjustment	3-24
Weight adjustment	3-24
Seat belt	3-25
Side marker lights	3-26
Specifications	6-1
Chassis	6-1
Coolant compound table	6-7
Dimensions	6-8, 6-9, 6-10, 6-11
Electric system	6-4, 6-5
Engine	6-1
Noise levels	6-7
Starting aid	3-16

T

Tires	5-25
-------------	------

V

Ventilation	3-28
Ventilation, fresh air	3-28

W

Washer system	
Tank	3-30





1 Introduction

1.1 Important information on this Operator's Manual

Please store the Operator's Manual in the storage bin under the engine cover.

This Operator's Manual contains important information on how to work safely, correctly and economically with the machine. Therefore, it aims not only at new operators, but it also serves as a reference for experienced ones. It helps to avoid dangerous situations and reduce repair costs and downtimes. Furthermore, the reliability and the service life of the machine will be increased by following the instructions in the Operator's Manual. This is why the Operator's Manual must always be kept at hand in the machine.

Your own safety, as well as the safety of others, depends to a great extent on how the machine is moved and operated. Therefore, carefully read and understand this Operator's Manual prior to the first drive. This Operator's Manual will help to familiarize yourself more easily with the machine, thereby enabling you to use it more safely and efficiently.

Prior to the first drive, carefully read chapter "Safety Instructions" as well, in order to be prepared for possible dangerous situations, as it will be too late for it during operation. As a rule, keep the following in mind:


Careful and prudent working is the best way to avoid accidents!

Operational safety and readiness of the machine do not only depend on your skill, but also on maintenance and servicing of the machine. This is why regular maintenance and service work is absolutely necessary. Extensive maintenance and repair work must always be performed by an expert with appropriate training. Insist on using original spare parts when performing maintenance and repair work. This ensures operational safety and readiness of your machine, and maintains its value.

Your Wacker Neuson dealer will be pleased to answer any further questions regarding the machine or the Operator's Manual.

Abbreviations/symbols

- This symbol stands for a list
 - Subdivision within lists or an activity. Follow the steps in the recommended sequence

 *This symbol requires you to perform the activity described*

 Description of the effects or results of an activity

n. s. = not shown

"Opt." = option

Stated whenever controls or other components of the machine are installed as an option.



1.2 Brief description

The model 5001 and 6001 dumpers are self-propelled work machines.

Get informed on and follow the legal regulations of your country.

This machine is a versatile and powerful helper for moving earth, gravel and debris on construction sites and elsewhere. The main components of the machine are:

- Rollbar
- Hydraulic swivel dump bucket or front dump bucket
- Deutz four cylinder diesel engine
- Sturdy steel sheet chassis

1.3 Operator qualifications

Requirements to be met by the operator

Earth moving machines may be driven and serviced only by persons who meet the following requirements:

- 18 years or older
- Physically and mentally suited for this work
- Persons have been instructed in driving and servicing the earth moving machine and have proven their qualifications to the contractor
- Persons are expected to perform work reliably.

They have been appointed by the contractor for driving and servicing the earth moving machine.

Get informed on and follow the legal regulations of your country.



1.4 EC Declaration of Conformity for 5001 dumper



**WACKER
NEUSON**

EC Declaration of Conformity

according to EC Directive 98/37/EC, 2000/14/EC Appendix 6

**Wacker Neuson Ltd
Rhymney
United Kingdom**

declare, under their own responsibility, that the product

Product name Wacker Neuson compact four wheel dumper 5001
Model 5001
Version 5001
Serial no. - - - - -

to which this declaration refers, corresponds to the pertinent fundamental requirements regarding safety and health of

EC Directive 98/37/EC, EMC Directive 89/336/EC
and the requirements of further pertinent EC Directives and standards.

	Noise level information	dBA
	Measured value	101
	Guaranteed value	101

The following standards and/or technical specifications have been used for the proper application of the requirements regarding safety and health stated in the EC Directives:

EN 474-1, EN 474-6, EN292-1, EN 292-2;

Place of storage of technical documentation:
Wacker Neuson Ltd

Rhymney, _ _ . _ _ . _ _ _ _

Managing Director
Wacker Neuson Ltd



1.5 EC Declaration of Conformity for 6001 dumper


**WACKER
NEUSON**

EC Declaration of Conformity

according to EC Directive 98/37/EC, 2000/14/EC Appendix 6

**Wacker Neuson Ltd
Rhymney
United Kingdom**

declare, under their own responsibility, that the product

Product name Wacker Neuson compact four wheel dumper 6001
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and the requirements of further pertinent EC Directives and standards.

	Noise level information	dBA
	Measured value	102
	Guaranteed value	102

The following standards and/or technical specifications have been used for the proper application of the requirements regarding safety and health stated in the EC Directives:

EN 474-1, EN 474-6, EN292-1, EN 292-2;

Place of storage of technical documentation:
Wacker Neuson Ltd

Rhymney, _ _ . _ _ . _ _ _ _

Managing Director
Wacker Neuson Ltd

1.6 Type labels and component numbers

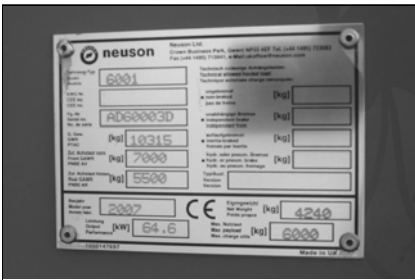


Fig. 1: Type label without cab



Fig. 1: Type label with cab

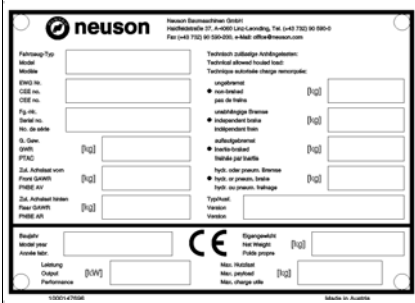


Fig. 1: Type label

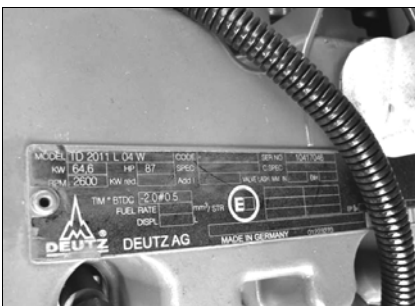


Fig. 2: Deutz diesel engine type label from serial number AD ...



Fig. 3: Rollbar type label

Serial number

The serial number is stamped on the machine chassis. It is also located on the type label.

The type label is located on the engine cover (6001 without cab) or at the front right on the front chassis (6001 with cab).

Type label information

Example: 6001

Model:

Year:

PIN: (serial number) ...

Power:

Mass:

Load:

Other information – [see chapter 6 Specifications](#) on page 6-1

Engine number

The type label (arrow) is located on the valve cover of the engine.

Example: Deutz TD 2011 L04
SER NO 10417046

Rollbar type label

The type label is located on the right on the rollbar.

Cab (option) type label

The type label is located in the cab on the left on the cab frame.



Fig. 4: Cab (option) type label

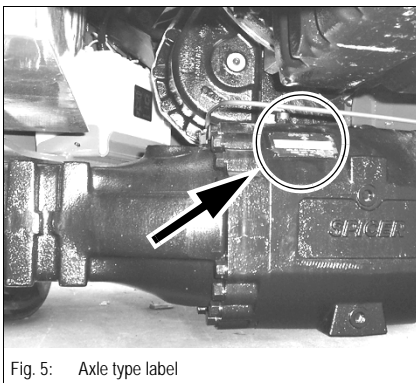
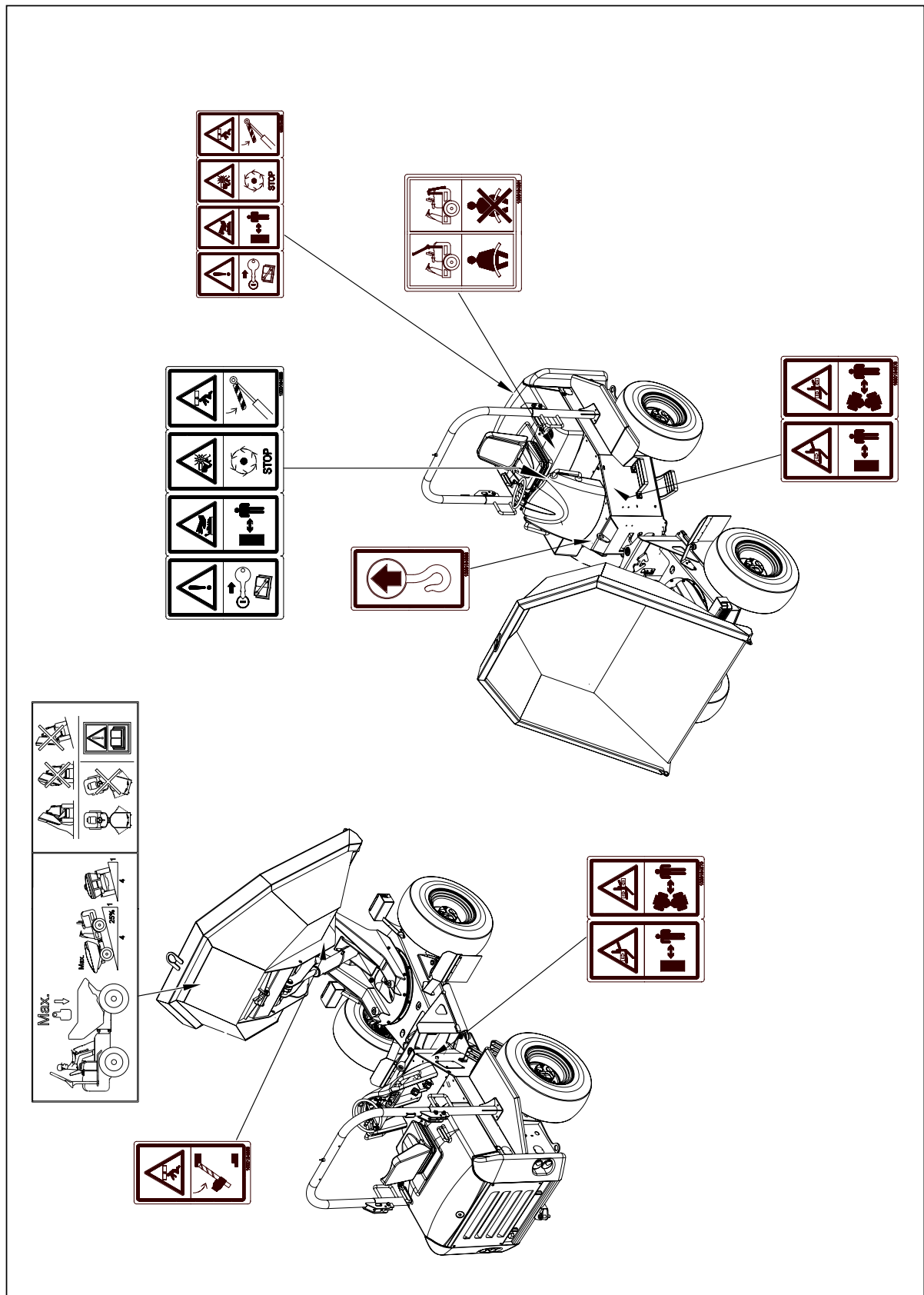
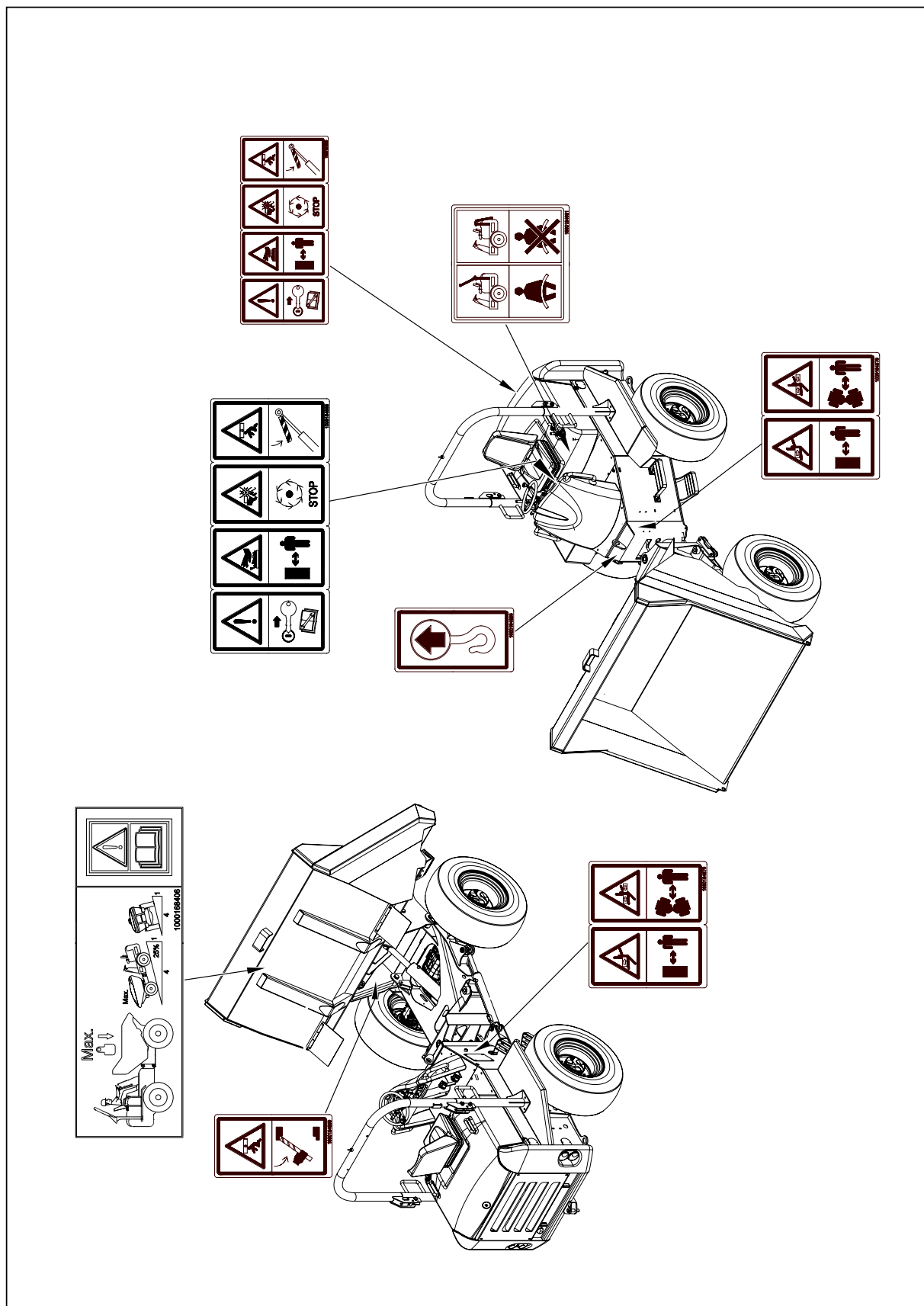


Fig. 5: Axle type label

1.7 Swivel dump bucket 5001/6001



1.8 Front dump bucket 6001



1.9 Labels



Fig. 6: Tire pressure label



Fig. 7: Tire pressure label



Fig. 8: Lifting point

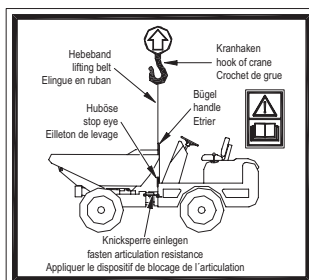


Fig. 9: Label with indications for loading the machine

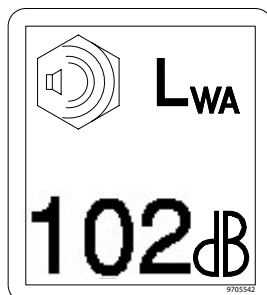


Fig. 10: Noise level

The following symbols are displayed on the machine to provide pictorial information to the user. The information and explanations are provided to avoid misinterpretation by the user. The symbols have been selected from standards to provide important information to those involved with operating, adjusting, maintaining and repairing this machine.

Description

Recommended tire inflation pressure.

Location (6001)

On the side of the dump bucket and the mudguards

Description

Recommended tire inflation pressure.

Location (5001)

On the side of the dump bucket and the mudguards

Description

Machine eye hooks

– [see chapter 3.26 Lifting the machine](#) on page 3-40

Location

On the frame member just above the articulation joint, next to the lifting point.

Description

Lifting instructions

– [see chapter 3.28 Tying down the machine](#) on page 3-42

Location

On the chassis

Description

Noise levels produced by the machine.

L_{WA} = sound power level

Other information – [see chapter 6.12 Noise levels](#) on page 6-7

Location (6001)

On the engine cover

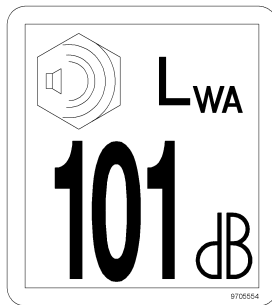


Fig. 11: Noise level

Description

Noise levels produced by the machine.

L_{WA} = sound power level

Other information – [see chapter 6.12 Noise levels](#) on page 6-7

Location (5001)

On the engine cover

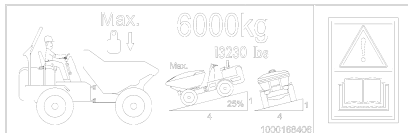


Fig. 12: Safe drive operation

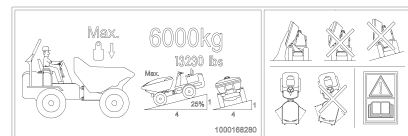


Fig. 13: Safe drive operation

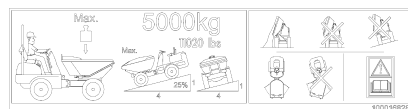


Fig. 14: Safe drive operation

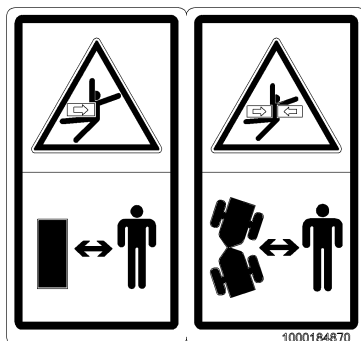


Fig. 15: Crushing hazard

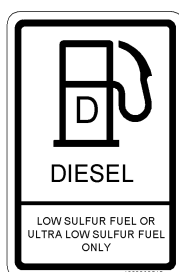


Fig. 16: Fuel requirement

Description

This label indicates the maximum authorized angle of inclination for driving on slopes, whatever the position of the machine.

Location (6001 Front Tip)

On the rear chassis

Description

This label indicates the maximum authorized angle of inclination for driving on slopes, whatever the position of the machine.

Location (6001 Powerswivel)

On the rear chassis

Description

This label indicates the maximum authorized angle of inclination for driving on slopes, whatever the position of the machine.

Location (5001)

On the rear chassis

Description

Indicates that persons other than the operator must keep a safe distance from the machine during operation!

Location

On the left and right of the chassis

Description

Diesel fuel indication

Location

On the fuel filler inlet



Fig. 17: Hydraulic oil label



Fig. 18: Label: maintenance strut

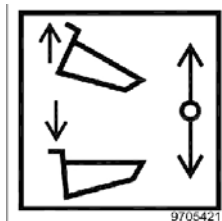


Fig. 19: Dump bucket control mode

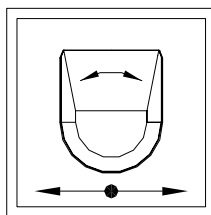


Fig. 20: Swiveling the dump bucket



Fig. 21: Label: caution



Fig. 22: Seat belt application

Description

Hydraulic oil filler inlet. Use only specified hydraulic fluid.

– see *chapter Filling up hydraulic oil* on page 5-21

Location

On the filler inlet of the hydraulic oil tank

Description

Rotate the dump bucket support bracket from the stored position to the locked position, supporting the dump bucket before entering the area under the dump bucket to perform an inspection, maintenance, or repair to the machine.

Location

Near the maintenance strut

Description

Dump bucket control mode: dump and lower

Location

On the engine cover by the hand control

Description

Control identification for swiveling the dump bucket as viewed from the operator seat.

Location (5001, 6001S)

On the engine cover

Description

1:Attention! Remove starter key and read the Service Manual before servicing the machine.

2:Hot surface! Do not touch. Keep a safe distance from the machine.

3:Cutting hazard. Cooling fan can cut when rotating. Stop engine before working on the engine or cooling system.

4:Crushing hazard. Before performing maintenance work, let the safety strut lock into place under the engine cover.

Location

On the engine cover

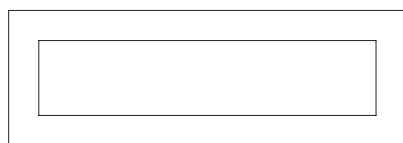
Description

Always fasten the lap belt if the rollbar is raised!

Do not use the seat belt when the ROPS bar is lowered to the stored position.

Location

On the engine cover

**Description**

This label states the serial number of the machine.

Location

Over the serial number

Fig. 23: Serial number

2 Safety Information

2.1 Safety Symbols Found in this Manual



This is the **safety alert symbol**. It is used to alert you to potential personal hazards.

- Obey all safety messages that follow this symbol.



DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.


 *Obey all safety messages that follow this symbol to avoid injury or death*

- Measures for avoiding danger



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.


 *Obey all safety messages that follow this symbol to avoid possible injury or death*

- Measures for avoiding danger



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

 *Obey all safety messages that follow this symbol to avoid possible minor or moderate injury*

NOTICE: Used without the safety alert symbol. NOTICE indicates a situation which, if not avoided, could result in property damage.



Important

Identifies an instruction that, when followed, provides for a more efficient and economical use of the machine.



Environment


Failure to observe the instructions identified by this symbol can result in damage to the environment. The environment is endangered if environmentally hazardous material, such as waste oil, is not properly used or disposed of.



2.2 Warranty

Warranty claims must be submitted to your Wacker Neuson dealer only. This requires, among other things, following the instructions in this Operator's Manual.

2.3 Designated use

- "Designated use" also includes observing the instructions set forth in this Operator's Manual and observing the maintenance schedule.
- Machine safety can be negatively affected by performing machine modifications without proper authority and by using spare parts, equipment, attachments and optional equipment which have not been checked and released by Wacker Neuson. Wacker Neuson will not be liable for damage resulting from unapproved parts or unauthorized modifications.
- Wacker Neuson shall not be liable for personal injury and/or damage to property caused by failure to observe the safety instructions on labels and in this Operator's Manual, and by the negligence of the duty to exercise due care when:
 - handling the machine
 - operating the machine
 - servicing the machine and performing maintenance work
 - repairing the machine
-  This is also applicable when special attention has not been drawn to the duty to exercise due care.
- Read and understand this Operator's Manual before starting up, servicing or repairing the machine. Observe all safety instructions.
- The machine may NOT be used for transport jobs on public roads!

2.4 General Conduct and Safety Instructions

Conditions for use

- The machine has been designed and built in accordance with state-of-the-art standards and recognized safety regulations. Nevertheless, its use can constitute a risk to life and limb of the user or of third parties, or cause damage to the machine and to other material property.
 - Read and follow this Operator's Manual and other manuals that accompany the machine.
 - The machine must only be used in accordance with its designated use and the instructions set forth in this Operator's Manual.
 - The machine must only be used by safety-conscious persons who are fully aware of the risks involved in operating the machine.
 - The machine must only be used when it is in serviceable condition. Any mechanical dysfunctions, especially those affecting the safety of the machine, must be repaired immediately.
 - The user/owner commits himself to operate and keep the machine in perfect condition and, if necessary or required by law, to require the operating or servicing persons to wear protective clothing and safety equipment.
-



User training and knowledge

- Always keep this Operator's Manual and other manuals that accompany the machine on hand in their storage bin at the place of use of the machine. Immediately replace an incomplete or illegible Operator's Manual.
 - All persons working on or with the machine must read and understand the safety information in this Manual before beginning work. This applies especially to persons working only occasionally on the machine, such as performing set-up or maintenance tasks.
 - Follow and instruct the operator in legal and other mandatory regulations relevant to accident prevention and environmental protection. These may include handling hazardous substances, issuing and/or wearing personal protective equipment, or obeying traffic regulations.
 - The user/owner must regularly ensure that all persons entrusted with operation or maintenance of the machine are working in compliance with this Operator's Manual and are aware of the risks and safety factors of the machine.
-

Preparing for use

- Before starting up the machine, ALWAYS inspect the machine to make sure that it is ready for safe work and road operation.
- Wear close-fitting work clothes that do not hinder movement. Tie back long hair and remove all jewelry (including rings).

Modifications and spare parts

- NEVER make any modifications, additions or conversions to the machine and its superstructures (for example, cab, etc.), or the machine's attachments, without the approval of Wacker Neuson! Such modifications may affect safety and/or machine performance. This also applies to the installation and adjustment of safety devices and valves, as well as to welding work on load-bearing elements.
- Spare parts must comply with the technical requirements specified by Wacker Neuson. Contact your Wacker Neuson dealer for assistance.



2.5 Staff Qualifications and Basic Responsibilities

User/owner responsibility

- Only allow trained and experienced individuals to drive, maintain, or repair the machine. NEVER let unauthorized or underaged persons drive or work with the machine.
 - Clearly and unequivocally define the individual responsibilities of the staff for operation, maintenance and repair.
 - Define the machine operator's responsibilities on the job site and for observing traffic regulations. Give the operator the authority to refuse instructions by third parties that are contrary to safety.
 - Do not allow persons to be trained or instructed by anyone other than an experienced person. Also, NEVER allow persons taking part in a general training course to work on or with the machine without being permanently supervised by an experienced person.
-

Repair person qualifications

- Work on the electric system and equipment, on the undercarriage and the steering and brake systems may be performed only by skilled individuals who have been specially trained for such work.
- Work on the hydraulic system of the machine must be performed only by staff with special knowledge and experience in hydraulic equipment.

2.6 Safety instructions regarding operation

Preparing for use

- Keep the machine clean. This reduces the risk of fire hazards (such as from combustible materials like rags) and reduces the risk of injury or operational accidents that may be caused by dirt build-up on the drive pedals or footholds.
 - Observe all safety, warning and informational signs and labels on the machine.
 - Start and operate the machine from the operator seat only.
 - The operator must sit in the seat, fasten and tighten the seat belt before putting the machine into operation.
 - Always adjust the seat position before starting work. Never change the seat position when driving or working!
 - Make sure that all safety devices are properly installed and functional before starting work.
 - Before putting the machine/attachment into operation (startup/moving), make sure that no one in the immediate vicinity will be at risk.
-

Startup and shutdown

- Perform startup and shutdown procedures according to this Operator's Manual.
- Observe all indicators.
- Do not use starting fluid (for example, ether), especially in those cases in which a heater plug (intake air pre-heating) is used at the same time.
- Make sure the drive levers, the signaling and the light systems are functional before operating the machine, and also before restarting after a work interruption.



- Make sure that the service brake and the parking brake are functional before operating the machine, and also after a work interruption. The machine will not start unless the parking brake is applied. The drive must be switched off if the parking brake is applied
-

Work area awareness

- Familiarize yourself with the surroundings and circumstances of the work site before beginning work. Be aware of:
 - obstacles in the working and traveling area
 - the soil weight-bearing capacity
 - any necessary barriers separating the work site from public roads
 - Always keep a safe distance from the edges of building pits and slopes.
 - Look out for the following when working in buildings or in enclosed areas:
 - Height of the ceiling/clearances
 - Width of entrances
 - Maximum load of ceilings and floors
 - Sufficient room ventilation—danger of carbon monoxide poisoning!
 - Observe the danger area. See "Danger area awareness".
 - Use the rearview mirror to stay aware of work site obstacles and personnel.
 - Always switch on the work lights in conditions of poor visibility and after dark. However, make sure that users of public roads will not be temporarily blinded by the work lights.
 - Provide additional lighting of the work area if the lights of the machine are not sufficient for performing work safely.
 - Drive slowly in meadows, on leaves or wet steel plates. The machine can slip even if the ground is level.
-

Danger area awareness

- The danger area is the area in which persons are in danger due to the movements of the machine, work equipment, additional equipment, or material.
 - The danger area also includes the area affected by falling material, equipment or construction debris. The danger area must be extended by 0.5 m (20") in the immediate vicinity of buildings, scaffolds, or other elements of construction.
 - Seal off the danger area if it is not possible to keep a safe distance. Stop work immediately if persons do not leave the danger area in spite of warnings!
-

Operating the machine

- Never operate the machine if you are standing on the ground.
 - Operate the machine **ONLY** when you are seated and you have fastened your seat belt. Stop the engine before releasing the seat belt.
 - On sloping terrain, adapt your travel speed to the prevailing ground conditions.
 - Never get on or off a moving machine, and never jump off the machine.
-



Special operating notes

- Always adapt your travel speed to the road and ground conditions, and to the visibility conditions. Ask for help in navigating difficult passages or obstacles. To avoid tipping the dumper, travel appropriately and slowly as conditions dictate. This applies in particular to rough terrain, the edges of trenches, curves and emergency braking. Use only the low speed range when traveling off-road (see the turtle indicator on the instrument panel).
 - Make sure the engine cover is closed and locked before starting the dumper.
 - Apply the parking brake when parking the machine. If possible, do not park the dumper on slopes. If this cannot be avoided, use wheel chocks, etc. Lower the dump bucket before leaving the dumper. Apply the parking brake only in an emergency when driving the machine.
 - Keep the base plate of the dump bucket in a clean condition so that the material is easily dumped out of the dump bucket. Load only material that can be easily dumped out.
 - Never travel too close to the edges of unsecured pits, precipices, etc. The pressure of the wheels on the ground may cause the edge to give way.
 - Never dump material into trenches where people are working. If the operator cannot see into the trench, he or she must be guided by someone who can see into the trench.
 - Always make sure the brakes are in perfect condition.
-

Carrying passengers

- Apart from the operator, do not allow anyone to ride on the machine.
 - Never lift, lower, or carry persons in the work equipment or attachments.
 - Never install a man basket or a working platform to the machine.
-

Mechanical integrity

- Take the necessary precautions to make sure the machine is used only when in a safe and reliable state.
 - Operate the machine ONLY if all protective and safety-oriented devices (ROPS, removable safety devices, soundproofing elements, mufflers, etc.) are in place and fully functional.
 - Check the machine at least once a day/per work shift for visible damage and defects. Report any changes, including changes in the machine's working behavior, to your supervisor immediately!
 - If the machine is behaving unpredictably, stop the machine immediately, lock it and report the malfunction to the competent authority/person. Safety-relevant damage or malfunctions of the machine must be rectified immediately.
-

Driving on public roads

- When traveling on public roads, ways and places, observe all applicable traffic regulations. If necessary, make sure beforehand that the machine is in compliance with these regulations.
- When crossing underpasses, gates, bridges and tunnels, or when passing under overhead lines, make sure the clearance height and width are sufficient.



2.7 Trailering and Transport

Trailers

- Even though the dumper is equipped with towing gear, it is not a tractor and may not be used as such in difficult terrain.
 - If the dumper is used on construction sites for towing trailers, weight the dump bucket with 25 % of the payload. However, do not exceed the dumper's maximum payload with the combination of towed equipment and the weight in the dump bucket!
 - Secure the towing pin of the towing gear with a split pin.
 - Use special care when coupling trailers, and couple them with the specially required devices only.
 - Always secure trailers against unintentional movement.
 - If optional equipment such as a trailer is installed, make sure that all lights and associated indicator lamps are installed and functional.
-

Transport

- The machine must be towed, loaded and transported only in accordance with procedures described in this Operator's Manual.
- For towing the machine, observe the prescribed transport position, admissible speed and itinerary.
- Make sure that the vehicle transporting the machine has a sufficient capacity and payload.
- Safely secure the machine on the transporting vehicle. Use the specified tie-down points.

2.8 Temperature Range

The machine may only be used between a maximum +45°C (113°F) and minimum -15°C (5°F). Contact your Wacker Neuson dealer if you intend to use the machine in other temperature ranges. Store the machine in a dry place at room temperature (about 15°C, or 59°F). Observing these temperature ranges will help to prolong the machine's service life.

2.9 Safety Guidelines for Maintenance

General maintenance notes

- Adhere to prescribed intervals or those specified in this Operator's Manual for routine checks/inspections and maintenance work.
 - For inspection and maintenance work, ensure that all tools and workshop equipment are adapted to the task that must be performed.
 - Replace hydraulic hoses within stipulated and appropriate intervals even if no safety-relevant defects have been detected.
 - Make sure all consumables and replaced parts are disposed of safely and with minimum environmental impact.
 - Always tighten any screws, electrical connections, or hose connections that may have been loosened during maintenance.
 - Upon completion of the maintenance and repair work, immediately refit and check any safety devices removed for set-up or maintenance purposes.
-



Personal safety measures

- Brief the staff and the operator before beginning maintenance or repair work. Appoint someone to supervise the activities.
 - Always work in groups of two. Both persons must be trained on the machine—one person must be seated on the seat and maintain visual contact with the other person.
 - Observe the specific safety instructions in the Maintenance section of this Operator's Manual.
 - Always keep a safe distance from all rotating and moving parts, for example, fan blades, V-belt drives, PTO shaft drives, fans, etc.
 - Before starting work on machine parts dangerous to life and limb (bruising, cutting), always ensure safe guarding/support of these areas.
 - Apply special care when working on the fuel system due to the increased danger of fire.
 - Engine and muffler system become very hot during operation and require cool-down time after machine is shut off. Avoid contact with hot parts. Wait for the machine to cool before touching components.
 - Retainer pins can fly out or splinter when struck with force. Avoid striking the pins during operation, repair, or maintenance.
 - Do not use starting fluid (for example, ether), especially in those cases in which a heater plug (intake air pre-heating) is used at the same time.
-

Preparing for maintenance and repair work

- Prior to performing repair and maintenance work, always attach a warning label such as "Repair work—do not start machine!" to the control elements as a precautionary measure.
 - Observe the startup and shutdown procedures set forth in this Operator's Manual. This applies to any work concerning the operation, conversion or adjustment of the machine and its safety-oriented devices, or any work related to inspection and maintenance.
 - Prior to performing assembly work on the machine, make sure no movable parts will roll away or start moving.
 - Perform maintenance work ONLY if:
 - the machine is positioned on firm and level ground
 - secured against unintentional movement
 - all hydraulically movable attachments and working equipment have been lowered to the ground
 - the engine is switched off
 - the starter key has been removed
 - Perform maintenance work beneath a raised machine, attachments or additional equipment ONLY if a safe and secure support has been provided. The use of hydraulic rams or jacks as the sole method of support does NOT sufficiently secure raised machines or equipment/attachments!
-

Performing maintenance and repairs

- Observe the adjustment, maintenance and inspection activities and intervals set forth in this Operator's Manual, including information on the replacement of parts and partial equipment. These activities must be performed only by qualified personnel.
- Disconnect the negative battery terminal when working on the electric system.
- Do not allow the machine to be serviced, repaired, or test-driven by unauthorized staff.



- If maintenance with the engine running cannot be avoided, lower the dump bucket and apply the parking brake.
 - Wear a safety harness when performing elevated maintenance work. Keep all handles, steps, handrails, platforms, landings and ladders free from dirt, snow and ice.
 - Always use specially designed or otherwise safety-oriented ladders and working platforms to perform overhead assembly work. NEVER use machine parts or attachments/superstructures as a climbing aid!
 - Do not use the work equipment as lifting platforms for persons.
 - In accordance with this Operator's Manual and instructions for the respective assembly, release the pressure in all system sections and pressure lines (hydraulic system) before performing any maintenance work.
-

2.10 Special hazards

Battery

- In case of a frozen battery or of an insufficient electrolyte level, do not try starting the machine with battery jumper cables. The battery can burst or explode.
 - Batteries contain caustic sulphuric acid. When handling the battery, observe the specific safety instructions and regulations relative to accident prevention.
 - A volatile oxyhydrogen mixture forms in batteries during normal operation and especially when charging. Always wear gloves and eye protection when working with batteries.
 - Starting the machine with a battery jumper cable can be dangerous if performed improperly. Observe the safety instructions regarding the battery.
-

Tracks (track dumpers)

- Repair work on the tracks must be performed only by trained technical staff or by an authorized service facility.
 - Defective tracks reduce the machine's operational safety. Therefore, check the tracks regularly for cracks, cuts or other damage.
 - Check track tension at regular intervals.
-

Electric energy

- Use only original fuses with the specified current rating.
- In case of electric system malfunctions, switch off the machine immediately, disconnect the battery (by using the battery master switch) and perform troubleshooting procedures.
- When working with the machine, maintain a safe distance from overhead electric lines! If work must be performed close to overhead lines, the equipment and attachments must be kept well away from them.
- If the machine comes into contact with a live wire:
 - Immediately drive the machine out of the danger area.
 - Warn others against approaching and touching the machine.
 - Do not leave the machine until the line that has been touched or damaged has been safely de-energized!

- Make sure that work on the electric system is performed only by a technician with appropriate training, in accordance with applicable electrical engineering codes.
- Inspect and check the electric equipment of the machine at regular intervals. Defects such as loose connections or scorched cables must be repaired immediately.
- Observe the operating voltage of the machine/attachments.
- Always remove the grounding strap from the battery when working on the electric system.

Hydraulics

- Check all lines, hoses and threaded fittings regularly for leaks and obvious damage! Repair any damage and leaks immediately. Leaking oil may cause injury and fire!

Noise

- Close all sound baffles during operation.
- Wear ear protection. This is especially important when performing hammer operations or working in enclosed areas.

MSDS

- When handling oil, grease and other chemical substances such as battery electrolyte or hydraulic fluid, observe the product-related safety regulations (Material Safety Data Sheet: MSDS).

Tires (wheel dumpers)

- Repair work on the tires must be performed only by trained technical staff or by an authorized service facility.
- Defective tires reduce the machine's operational safety. Therefore, check the tires regularly for cracks, cuts or other damage.
- Check the tire pressure at regular intervals.

2.11 Safety Guidelines while using Internal Combustion Engines



WARNING

Internal combustion engines present special hazards during operation and fueling. Failure to follow the warnings and safety guidelines could result in severe injury or death.

Read and follow the warning instructions in the engine owner's manual and the safety guidelines below.

Guidelines for running the engine

- Keep the area around muffler pipe free of flammable materials.
- Check the fuel lines and the fuel tank for leaks and cracks before starting the engine. Do not run the machine if fuel leaks are present or the fuel lines are loose.
- Engine exhaust CAN KILL YOU IN MINUTES. Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell. Never run the machine indoors or in an enclosed area such as a deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided.
- Do not smoke while operating the machine.
- Do not run the engine near open flames.
- Do not touch the engine or muffler while the engine is running or immediately after it has been turned off.



- Do not operate a machine when its fuel cap is loose or missing.
 - Do not remove the radiator cap when the engine is running or hot. The radiator fluid is hot and under pressure, and may cause severe burns!
-

Guidelines for fueling the engine

When fueling the engine:

- Clean up any spilled fuel immediately.
- Refill the fuel tank in a well-ventilated area.
- Replace the fuel tank cap after refueling.

When fueling the engine:

- Do not smoke.
- Do not refuel a hot or running engine.
- Do not refuel the engine near an open flame.





3 Operation

This chapter describes the controls and contains information on the function and handling of the indicators and controls on the control stand.

The pages stated in the table refer to the description of the controls.


A combination of digits, or a combination of digits and letters (e.g. 40/**18** or 40/**A**) used for identifying the control elements, means:

fig. no. 40/control element no. 18 or position **A** in fig. no. 40

Figures carry no numbers if they are placed to the left of the text.

The symbols used in the description have the following meanings:

- This symbol stands for a list
 - Subdivision within lists or an activity. Follow the steps in the recommended sequence

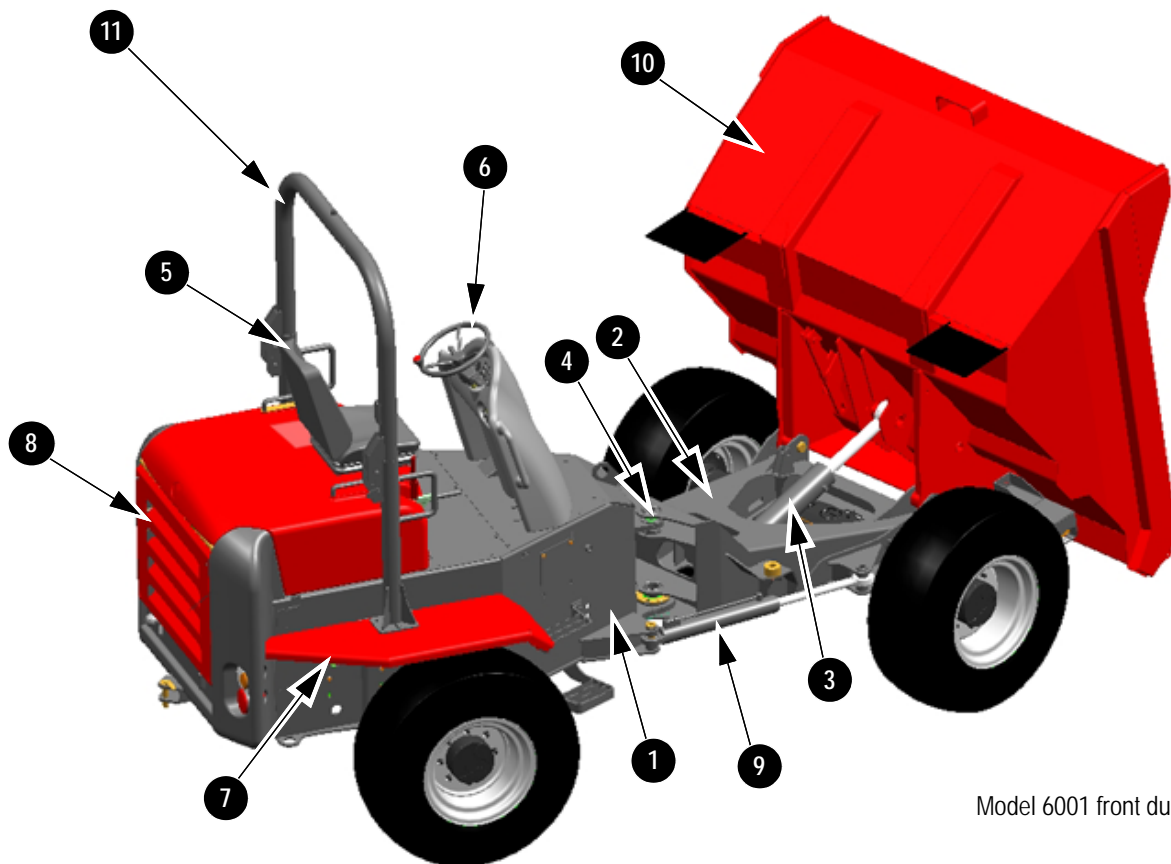
 *This symbol requires you to perform the activity described*

➡ Description of the effects or results of an activity

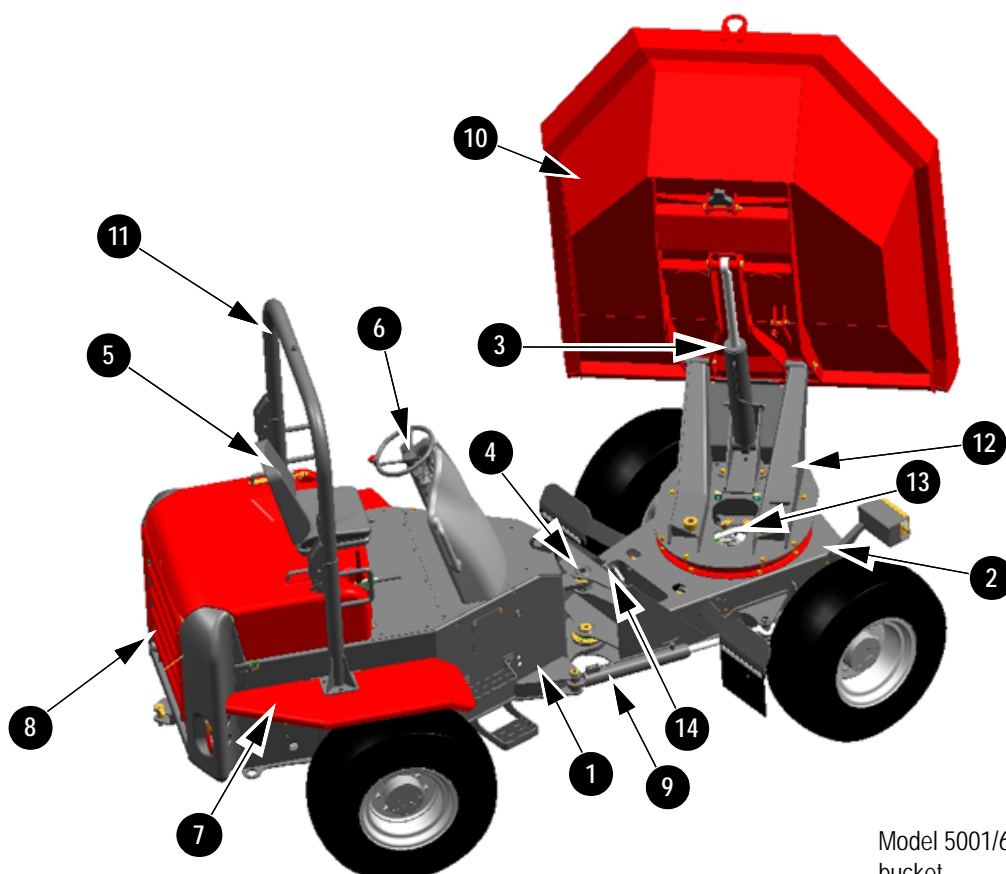
n. s. = not shown

"Opt" = option Stated whenever controls or other components of the machine are installed as an option.

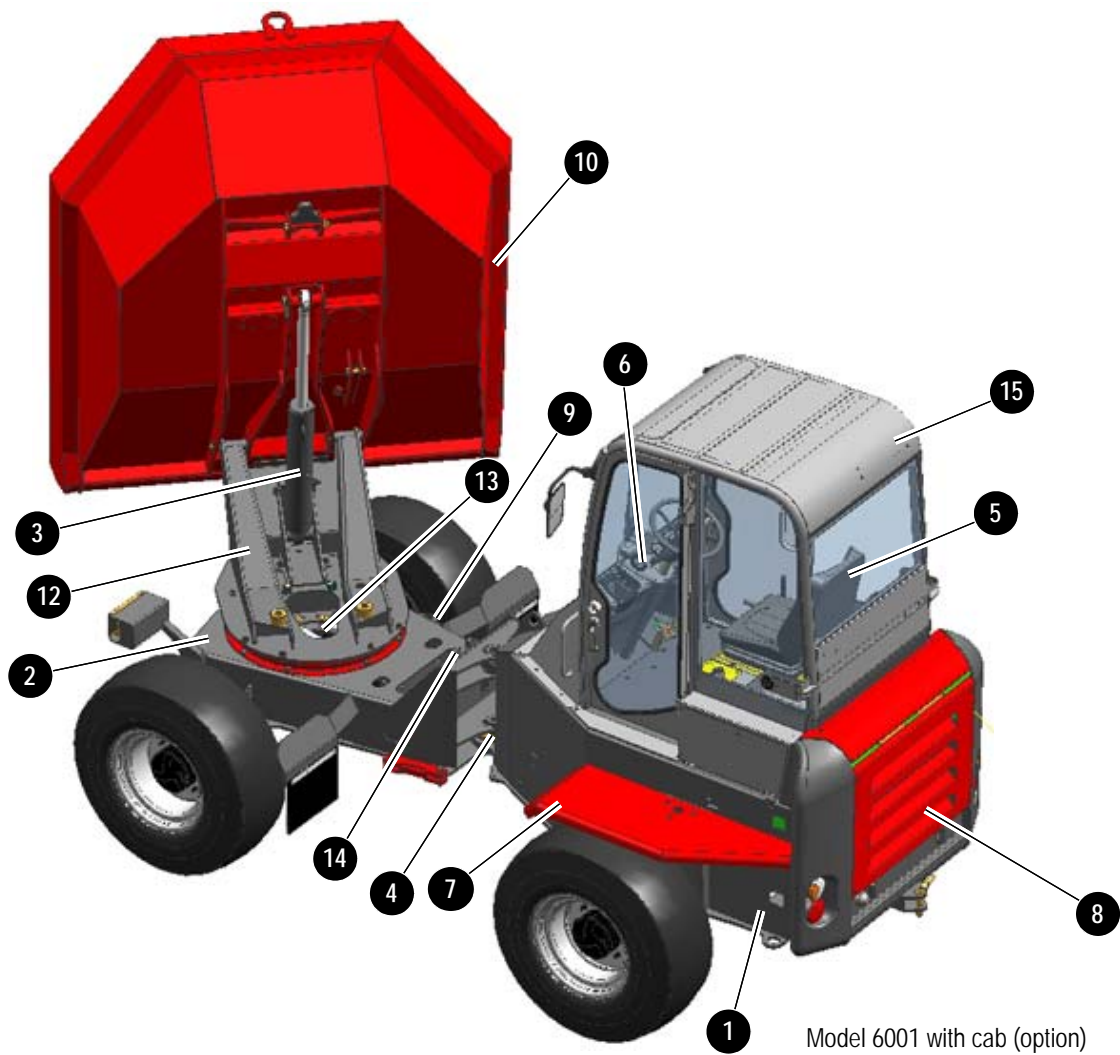
3.1 Description of components



Model 6001 front dump bucket



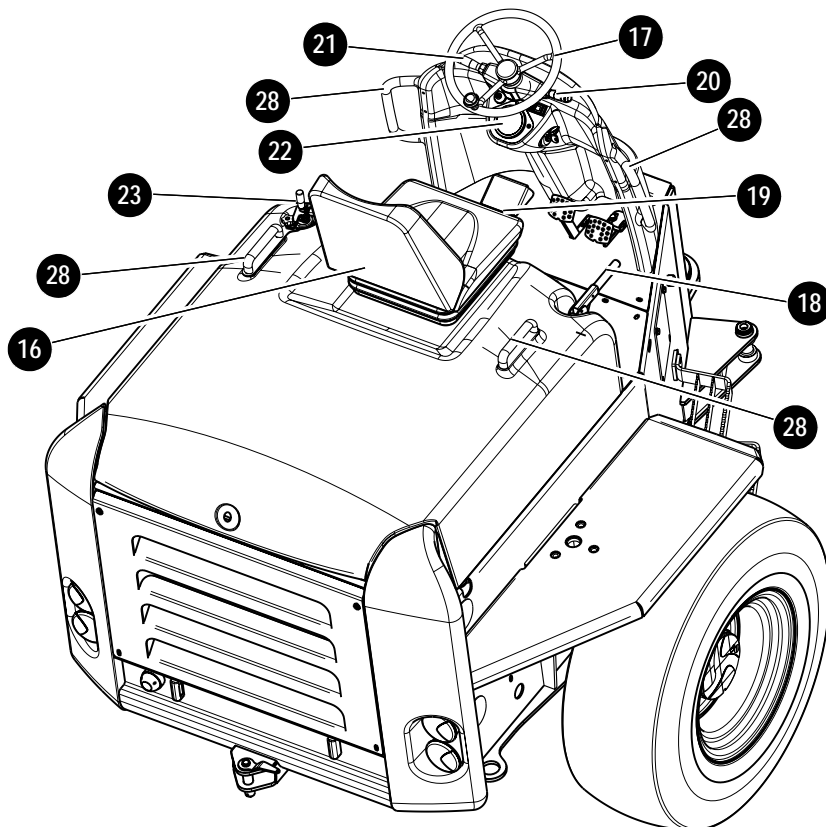
Model 5001/6001 swivel dump bucket



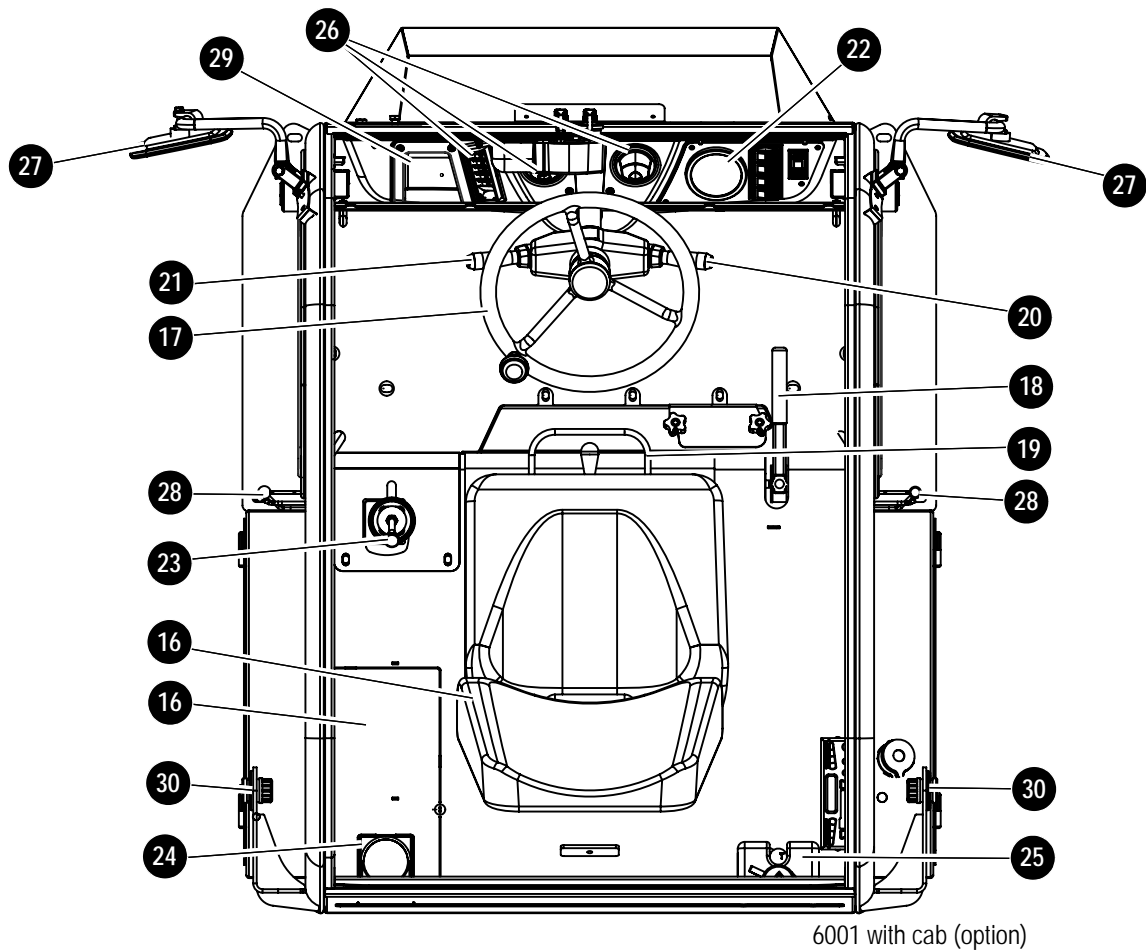
Model 6001 with cab (option)

Pos.	Description
1	Rear chassis
2	Front chassis
3	Tilt ram
4	Articulated joint
5	Operator seat
6	Control stand
7	Mudguard
8	Engine cover
9	Steering ram
10	Dump bucket
11	Rollbar (machines without cab)
12	Swiveling console (option)
13	Slewing ram (option)
14	Slewing center position (option)
15	Cab (option)

3.2 Control stand

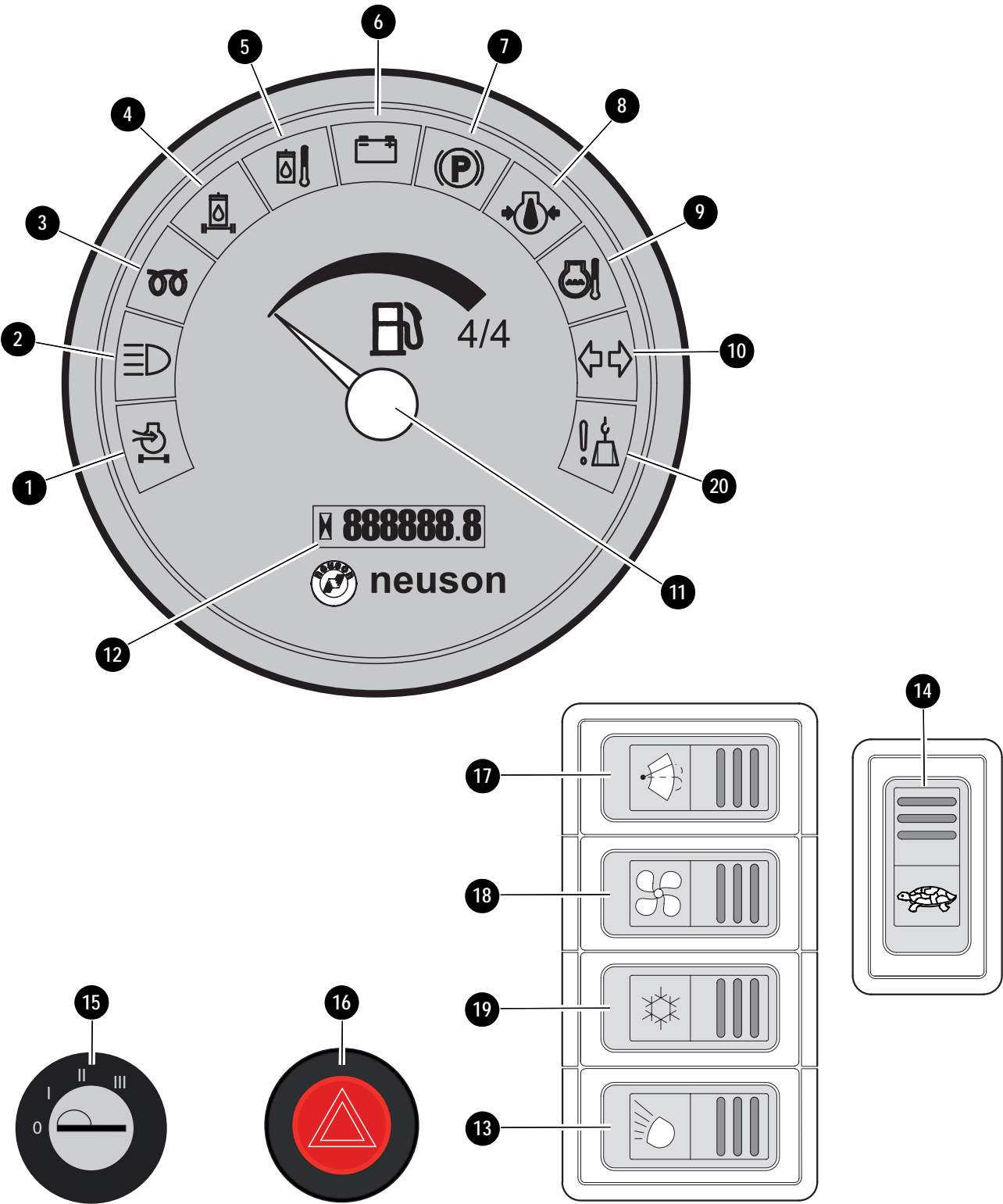


Model 5001/6001



Pos.	Description
16	Operator seat
17	Steering wheel
18	Parking brake
19	Lever for horizontal seat adjustment
20	Forward-reverse control
21	Turn indicator—horn—lights
22	Instrument panel
23	Dump bucket control lever
24	Drinks holder (machines with cab)
25	Washer fluid tank (machines with cab)
26	Air vent (machines with cab)
27	Rearview mirror (option)
28	Handle
29	Storage compartment (machines with cab)
30	Door arresters

3.3 Instrument panel





Pos.	Description
1	Air filter indicator (red)
2	High beam indicator (blue)
3	Preheating indicator (yellow)
4	Hydraulic oil filter indicator (red)
5	Converter oil temperature indicator (red)
6	Indicator (red)—alternator charge function
7	Parking brake indicator (red)
8	Engine oil pressure indicator (red)
9	Coolant temperature indicator (red)
10	Turn indicator (green)
11	Fuel gauge
12	Hour meter
13	Working light switch (option)
14	Low speed switch (turtle)
15	Ignition lock
16	Hazard warning switch
17	Wiper switch (option)
18	Fan switch (option)
19	Air conditioning switch (option)
20	Not assigned

3.4 Putting the machine into operation

Safety instructions

- Use footholds and handles **28** to access and leave the machine
- Never use control elements as handles
- Never get on or off a moving machine! Never jump off the machine

Putting the machine into operation for the first time

Important information

- The machine may be put into operation by authorized staff only
 - *see chapter 2.5 Staff Qualifications and Basic Responsibilities* on page 2-4 and
 - *see chapter 2.6 Safety instructions regarding operation* on page 2-4 of this Operator's Manual.
- The staff must have read and understood this Operator's Manual before putting the machine into operation.
- The machine may only be used in serviceable condition in accordance with its designated use and the instructions set forth in the Operator's Manual, and only by safety-conscious persons who are fully aware of the risks involved in operating the machine.
- Go through the "Start-up" checklist in the following chapter.

Running-in period

Handle the machine carefully during its first 50 operating hours.

The future performance and service life of the machine are heavily dependent on the observance of the following recommendations during the running-in period.

- Do not overload the machine, but at the same time do not drive too cautiously either, as the machine will never reach its proper operating temperature.
- Do not run the engine at high rpm for extended periods.
- Increase the load gradually while varying the engine speed.
- Strictly observe the maintenance schedules in the appendix – *see chapter 5.14 Maintenance plan (overview)* on page 5-35



Check lists

The checklists below are intended to assist you in checking and monitoring the machine before, during and after operation.

These checklists cannot claim to be exhaustive; they are merely intended as an aid for you in fulfilling your duties as a conscientious operator.

The checking and monitoring jobs listed below are described in greater detail in the following chapters.

If the answer to one of the following questions is NO, first rectify the cause of the fault before starting or continuing work.

Start-up checklist

Check the following points before putting the machine into operation or starting the engine:

No.	Question	✓
1	Parking brake applied?	
2	Enough fuel in the tank? (→ 5-5)	
3	Coolant level OK? (→ 5-12)	
4	Has water in the diesel prefilter been removed? (→ 5-7)	
5	Engine oil level OK? (→ 5-9)	
6	Oil level in hydraulic oil tank OK? (→ 5-20)	
7	V-belt condition and tension checked? (→ 5-16)	
8	Lubrication points greased? (→ 5-38)	
9	Hydraulic hoses, connections and ram seals checked for leaks?	
10	Has position of battery terminals firmed?	
11	Tires checked for cracks, cuts, etc.? (→ 5-25)	
12	Footholds clean?	
13	Engine cover locked with the buckle? (→ 3-44)	
14	Especially after cleaning, maintenance or repair work: → Rags, tools and other loose objects removed?	
15	Correct seat position? (→ 3-24)	
16	Rollbar raised?	
17	Seat belt fastened? (→ 3-25)	

Operation checklist

After starting the engine and during operation, check and observe the following points:

No.	Question	✓
1	Anyone dangerously close to the machine?	
2	Indicators for engine oil pressure and alternator charge function gone out? (→ 3-11)	
3	Temperature indicator for engine coolant does not come on? (→ 3-12)	
4	Accelerator and brake pedals working correctly? (→ 3-18)	

Parking checklist

Check and observe the following points when parking the machine:

No.	Question	✓
1	Dump bucket lowered?	
2	Drive lever in neutral position?	
3	Parking brake applied?	
4	Starter key removed?	
When parking on public roads:		
5	Machine adequately secured?	
When parking on slopes:		
6	Machine additionally secured with chocks under the wheels to prevent it from rolling away?	

Indicators and warning lights: overview

1 Not assigned



2 High beam indicator (blue)

Comes on if high beam is on.



CAUTION

Make sure no other road users are blinded by lights.

☞ Switch on low beam when other road users are nearby.

3 Preheating indicator (yellow)

Comes on if the key in the preheating start switch is in position **2**.

A glow plug preheats the air in the combustion chamber of the engine when the key is in this position.

The indicator goes out as soon as preheating temperature is reached (15 – 20 sec)



4 Hydraulic oil filter indicator (red)

Indicates inadmissibly high pressure in the hydraulic return line to the tank. In this case:

☞ Have the hydraulic oil return filter checked and, if necessary, replaced by an authorized service facility

☞ The indicator can come on briefly if the hydraulic oil is cold, but goes out again once operating temperature is reached.



5 Not assigned



6 Indicator (red)—alternator charge function

NOTICE: The coolant pump no longer runs if the V-belt is faulty. Engine may overheat or break down. If the indicator comes on with the engine running:

☞ Stop the engine immediately.

☞ Have the cause repaired by an authorized service facility.



The V-belt for the alternator, or the charging circuit of the alternator is faulty if the indicator comes on with the engine running. The battery is no longer charged.

7 Parking brake indicator (red)

Comes on if the parking brake is applied.

In this case:

*☞ Actuate lever **18** to release the parking brake*





8 Engine oil pressure indicator (red)

Comes on if the engine oil pressure is too low. In this case:

- ☞ *Stop the machine.*
- ☞ *Stop the engine immediately and check the oil level.*

The indicator comes on when the ignition is turned on and goes out as soon as the engine runs.



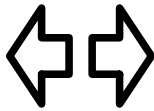
9 Coolant temperature indicator (red)



WARNING

Burn hazard. The engine coolant is under pressure at high temperature. Failure to observe specific instructions to check the coolant level in the radiator of the cooling system may cause serious injury from burns or pressure spray of the coolant.

- ☞ *Do not attempt to remove the radiator filler cap or drain the radiator coolant until the coolant temperature is less than 43°C (110°F).*
- ☞ *Stop the engine and wait at least 10 minutes or until the cap is comfortable to the touch before attempting removal.*
- ☞ *Wear protective gloves and eye protection.*
- ☞ *After determining the temperature is low enough to avoid burns, slowly turn the cap counterclockwise to the first notch stopping cap rotation. Wait to confirm that any pressure has been relieved. Depress the cap and continue to rotate the cap in a counterclockwise motion until the cap is free and can be removed.*



10 Turn indicator (green)

Flashes if the turn indicators are switched on



20 Not assigned

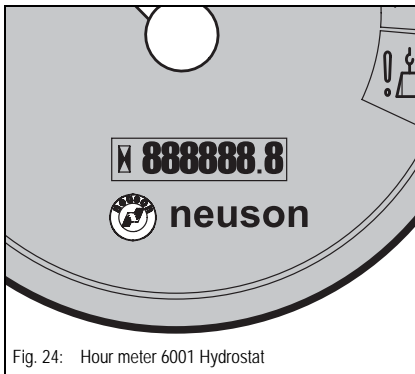


Fig. 24: Hour meter 6001 Hydrostat

12 Hour meter

Counts the machine service hours when the engine is running.

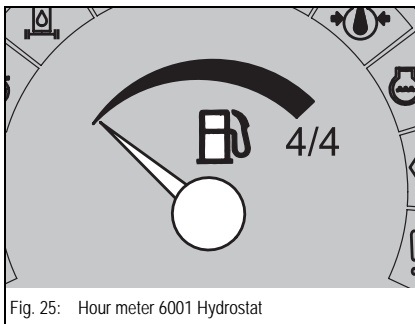


Fig. 25: Hour meter 6001 Hydrostat

11 Fuel level indicator

Refuel immediately if the fuel level indicator reaches minimum. Otherwise the fuel system must be bled if it is run dry.

3.5 Driving the dumper

Preheating start switch: overview

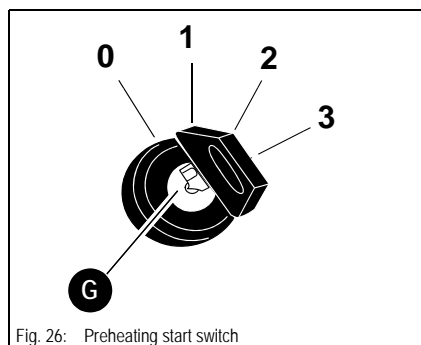


Fig. 26: Preheating start switch

Position	Function	Power consumer
0	Insert or remove the starter key	None
1	ON/drive position	All functions are operational ➡ indicators come on
2	Preheats the engine (10 – 15 seconds)	➡ Until the preheating indicator goes out
3	Starts the engine	➡ Starter is actuated ➡ Indicators must go out

Before starting the engine

🔧 *Adjust your seat position – see Seat adjustment on page 3-24*



Important

All controls must be within easy reach. You must be able to press the accelerator and brake pedals to their limit positions!

🔧 *Fasten your seat belt – see Seat belt on page 3-25*

- Do not fasten your seat belt if the rollbar is not raised.

🔧 *Check whether all levers and pedals are in neutral position.*

🔧 *Press the accelerator pedal to the center position (between minimum and maximum) if the engine is cold.*

Starting the engine: general

- The starter cannot be actuated if:
 - the engine is already running (start repeat interlock).
 - the drive lever is not in neutral position,
 - the parking brake is not applied.
- Do not run the starter for more than 10 seconds
- Wait about 1 minute so the battery can recover before trying again

Procedure

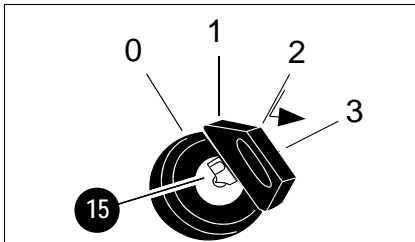


Fig. 27: Preheating start switch

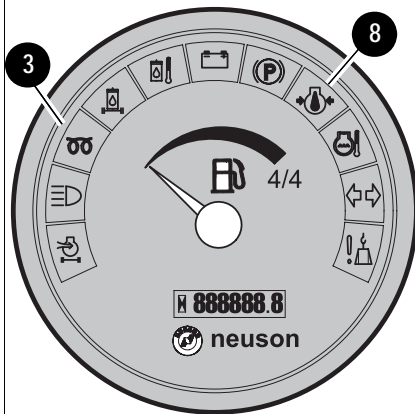


Fig. 28: indicators

After you have completed the starting preparations:

- Insert the starter key into the preheating/start switch 15.
- Turn the starter key to position "1"
- Check whether the following indicators come on:
 - Indicator 8 for engine oil pressure.
 - Indicator 6 for alternator charge function.
- Replace defective indicators immediately.
- Turn the starter key to position "2" and hold it in this position until the preheating indicator goes out.
- Turn the starter key to position "3" and hold it in this position until the engine starts.
 - If the engine does not start after 10 seconds.
 - Interrupt the start procedure and try again after 1 minute.
 - If the engine still does not start after the second try.
 - Contact a Wacker Neuson service facility for troubleshooting.
- As soon as the engine runs:
- Release the starter key.

When the engine runs smoothly (increased engine speed):



Important

In general, a battery delivers less energy in cold conditions. Therefore make sure the battery is always well charged.

When the engine has started ...

☞ Check whether all indicators have gone out:

☞ Let the engine warm up

At cold temperatures:

☞ Increase the engine rpm slowly

☞ Do not run the engine at full load until it has reached its operating temperature

Engine warm-up

Once it has started, let the engine warm up at slightly increased idling rpm. Run the engine without load during the warm-up phase (drive lever in neutral position). During the warm-up phase, check for unusual noise, exhaust color, leaks, malfunctions or damage. In case of malfunctions, damage or leaks, park and secure the machine, and find out the cause for the damage and have it repaired.

Jump-starting the engine (supply battery)

Safety instructions



WARNING

Explosion hazard. A frozen battery may explode during a jump-starting operation.

☞ Do not jump-start the engine if the battery is frozen.

☞ Dispose of the frozen battery in accordance with local environmental regulations.

☞ Replace the battery.



CAUTION

Possible equipment damage or injury from improper jump-starting.

☞ Make sure the jumper cables are rated for 12V and the maximum CCA rating of the battery.

☞ The cable clamping ends shall be colored red for positive post connectors, and black for the negative post connectors.

☞ To avoid sparking, the excavator must not touch the jump-starting vehicle when connected with jumper cables.

☞ Use a 12V source, either in the form of another battery or a charger equipped for jump starting. Using higher or lower voltage sources may damage the electric system and potentially cause injury.

☞ To avoid short circuits, the jumper cable connected to the positive + terminal of the starting battery must never be brought into contact with electrically conductive vehicle parts.

☞ Route the jumper cables so they do not become entangled in rotating components in the engine compartment.

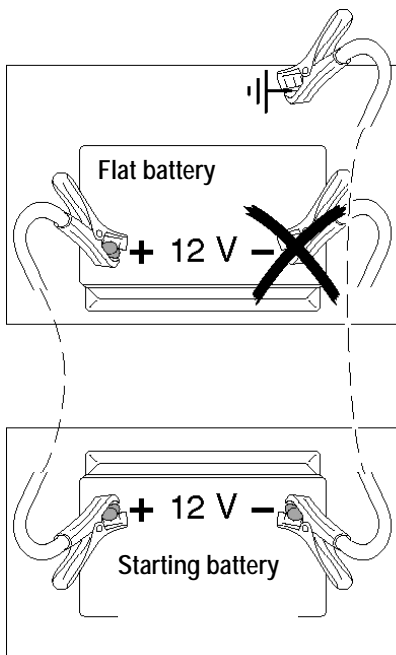


Fig. 29: Starting aid with jump leads

Procedure

- Drive the jump-starting vehicle close enough to the machine so that the jump leads can reach to connect the two batteries.
- Let the engine of the jump-starting vehicle run.
- First connect one end of the red jump lead (+) to the + terminal of the flat battery, then connect the other end to the + terminal of the starting battery.
- Connect one end of the black jump lead (–) to the – terminal of the starting battery.
- Connect the other end of the black jump lead (–) onto a solid metal component firmly mounted on the engine block or onto the engine block itself. Do not connect it to the negative terminal of the flat battery, as otherwise explosive gas emerging from the battery may ignite if sparks are formed!
- Start the engine of the machine with the flat battery.

Once the engine has started:

- With the engine running, disconnect both jump leads in exactly the reverse order (first remove the – terminal, then the + terminal)—this prevents sparking in the vicinity of the battery!

Special instructions for traveling on public roads

The machine is subject to the:

- Applicable legal regulations of your country

Also observe the applicable regulations for accident prevention of your country.

Traveling operation



Fig. 30: Moving off with the dumper

Important

Before pressing accelerator pedal A:

- ☞ *Verify that the machine is in the proper gear (forward or reverse).*
- ☞ *Make sure that the surrounding area is clear.*

Traveling operation:

Proceed as follows:

- ☞ *Select the travel speed.*

Switch 14 pressed (turtle symbol comes on) = low travel speed.

Switch not pressed = high travel speed.

- ☞ *Select the travel direction with drive lever 20.*

☞ Push forward or pull backward depending on the required traveling direction.

- ☞ *Release the parking brake.*

- ☞ *Press the accelerator pedal slowly = machine is accelerated.*

- ☞ *To brake the machine: take your foot off the accelerator pedal and if necessary, press brake pedal B.*

To change travel direction:

- ☞ *Stop the machine!*

- ☞ *Select the required traveling direction with drive lever 20*

- ☞ *Start machine travel by pressing accelerator pedal A.*

Accelerator pedal



Fig. 31: Accelerator pedal

Accelerator pedal **A** sets the engine speed. During travel operation, the dumper is accelerated as the engine speed increases. During dump bucket operation, the dump bucket dumps in or out more rapidly as engine speed is increased.

Function	
Press the pedal	Engine speed rises
Reduce the pressure on the pedal	Engine speed is reduced
Release the pedal	Idling speed

The forward or reverse travel speed depends on the position of accelerator pedal **A**.

Hydraulic brake

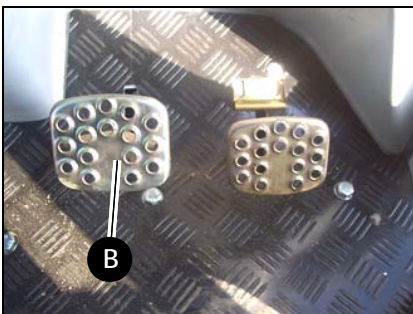


Fig. 32: Brake pedal

Hydrostatic drive.

Hydraulic service brake **B** with fully enclosed wet multidisc brake in the front axle.

Important

Use service brake **B** on slopes to slow down the machine as required.

Parking brake

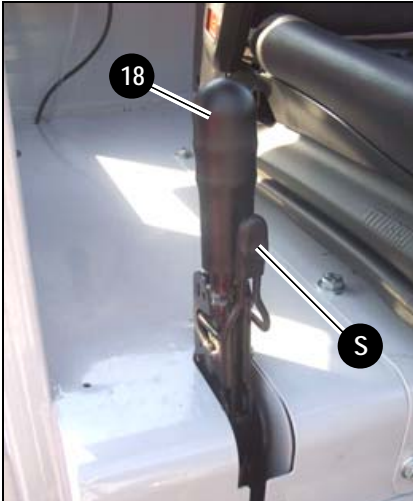





Fig. 33: Parking brake

The parking brake is a mechanical wet multidisc brake in the front axle with additional brake effect on the rear axle via the cardan shaft!

Release the parking brake.

-  Press lock lever **S** of parking brake lever **18**.
-  Press parking brake lever **18** downward to the front.

Apply the parking brake.

-  Pull parking brake lever **18** up.

3.6 Hazard warning system

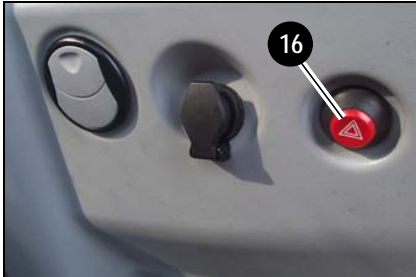


Fig. 34: Hazard warning system

Pressing switch **16** switches the hazard warning system on and off.

3.7 Low/high speed

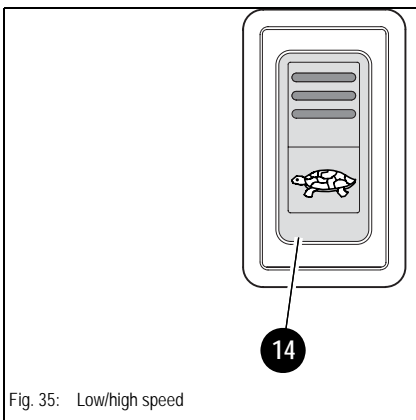


Fig. 35: Low/high speed

Use switch **14** to switch over between low and high speed.

The green indicator (turtle) in the switch comes on if low speed is enabled.

The green indicator in the switch goes out if high speed is enabled.

3.8 Operating on slopes

Follow these safety instructions carefully when driving on slopes, in order to avoid accidents.

Specific safety instructions

- ⚠ *The machine can travel on firm ground in all positions on slopes up to 25 %.*
- ⚠ *Lower the dump bucket when driving the machine.*
- ⚠ *Also drive in low speed on slopes!*
- ⚠ *When operating the machine, make sure you can stop safely if the machine starts to skid or if it becomes unstable.*
- ⚠ *Avoid swiveling the dump bucket when traveling on slopes, otherwise the machine can lose its balance and tip over.*
 - ➡ *When operating on a slope, only dump the dump bucket when the machine is facing uphill.*
- ⚠ *Do not drive across slopes steeper than 25 %, otherwise the machine can tip over laterally.*
- ⚠ *Always drive straight ahead when driving uphill or downhill. Driving diagonally or at an angle to the slope is very dangerous.*

Driving on slopes with a loaded dump bucket

Proceed as follows to prevent the machine from tipping over or slipping sideways:

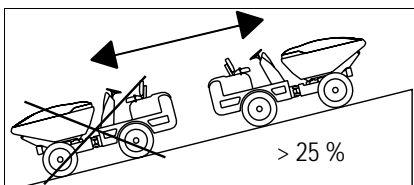


Fig. 36: Driving on slopes with a loaded dump bucket

- ⚠ *When driving on slopes (> 25 %) with a loaded dump bucket, the dump bucket must always face uphill since the heavier part of the machine—in this case the load in the dump bucket—must face uphill to prevent the machine from tipping over.*

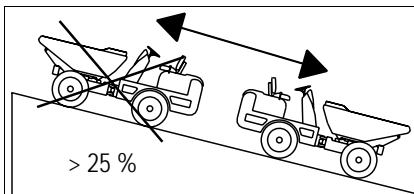


Fig. 37: Driving on slopes with an empty dump bucket

- ⚠ *When driving on slopes (> 25 %) with an empty dump bucket, the dump bucket must always face downhill since the heavier part of the machine—in this case the engine—must face uphill to prevent the machine from tipping over.*

Driving across slopes

- ⚠ *Do not drive across slopes with lateral inclinations steeper than 25 %!*
- ⚠ *When driving across slopes with lateral inclinations up to 25 %, dump out the dump bucket only uphill for reasons of safety.*



WARNING

Tip-over hazard. Soft or uneven ground may affect machine stability while driving across slopes.

- ⚠ *Pay special attention to the ground conditions while driving across slopes.*
- ⚠ *Drive across slopes with inclinations up to 25 % only when the ground is firm.*

3.9 Parking the machine

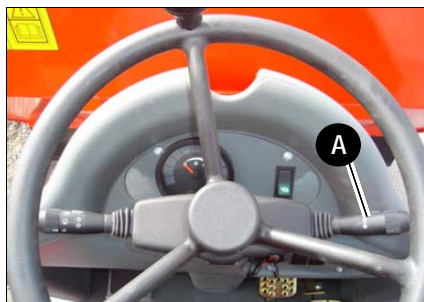


Fig. 38: Neutral



CAUTION

Possible inadvertent machine movement. To avoid unintentional movement of the machine once it has been parked:

- ☞ *Park the machine on level, stable ground.*
- ☞ *Stop the machine.*
- ☞ *Move drive lever **A** to neutral position.*
- ☞ *Lower the dump bucket.*
- ☞ *Apply the parking brake.*
- ☞ *Switch off ignition.*
- ☞ *If parking the machine on a slope cannot be avoided, place wheel chocks under the wheels to make sure the machine will not roll away under its own weight.*

NOTICE: Never stop the engine under full load, otherwise it may be damaged due to overheating. Let the engine briefly run at idling speed with no load before you switch it off.



Important

Secure the machine against unauthorized operation!

- Remove the key.

3.10 Loading the machine



WARNING

Crushing hazard.

☞ *Stay clear of the machine as it is being loaded.*

NOTICE: Incorrect loading causes severe damage to the machine.

☞ *Make sure the payload is not exceeded.*

☞ *Make sure the operator's visibility is not impaired.*

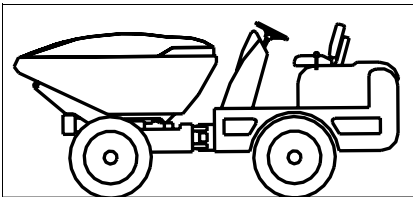


Fig. 39: Loading the machine

- Before loading:

☞ *Select the neutral position with the drive lever.*

☞ *Lower the dump bucket.*

☞ *Apply the parking brake.*

☞ *Stay clear of the control stand and of the danger area for reasons of safety.*

- Once loading is over:

☞ *Remove dirt, debris, dust, etc. from the control elements.*

☞ *Remove loose material.*

3.11 Seat adjustment



CAUTION

Possible loss of machine control while adjusting the operator seat.

- ⚠ *Never change the seat position during machine operation or travel.*
- ⚠ *Adjust the seat before operating the machine.*
- ⚠ *– see Before starting the engine on page 3-14.*

Weight adjustment



Important

Adjust the seat suspension correctly to ensure a high level of ride comfort.



Fig. 40: Weight adjustment

To adjust to a higher weight:

- ⚠ *Turn the adjusting wheel to the right.*

To adjust to a lower weight:

- ⚠ *Turn the adjusting wheel to the left.*

The specified weight is indicated by the yellow pointer next to the adjusting wheel.

Horizontal adjustment

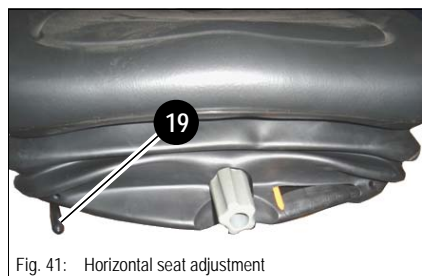


Fig. 41: Horizontal seat adjustment

- ⚠ *Sit down on the operator seat.*

- ⚠ *Pull lever 19 upward and at the same time.*

- ⚠ *Move the operator seat forward or backward.*

Backrest adjustment

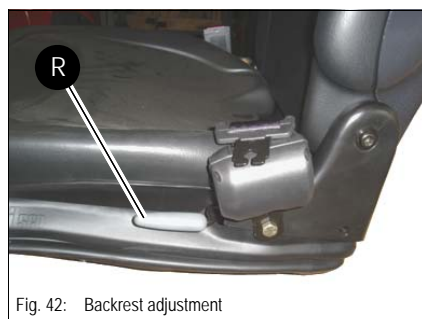


Fig. 42: Backrest adjustment

- ⚠ *Pull lever R up and at the same time press against the backrest to move it to the required position.*

- ⚠ *Let lever R lock into place.*

3.12 Seat belt



WARNING

Personal injury hazard.

- ☞ *The seat belt provides positive support in the operator seat during operation and travel and keeps the operator located within the comfort zone for control operation. The seat belt also reduces the risk of injury in the event a tipping incident occurs during use.*
- ☞ *Always buckle up before moving or working with the machine.*
- ☞ *Seat belt must not be twisted.*
- ☞ *Seat belt must run over the hips—not over the stomach—and must always be applied tightly.*
- ☞ *Do not place the seat belt over hard, edged or fragile items (tools, meter rule, glasses, pen) carried inside your clothes.*
- ☞ *Never buckle up 2 persons with one seat belt.*
- ☞ *Never operate the machine with the ROPS in the folded position.*
- ☞ *Check the seat belt each time you use the machine. Have damaged parts immediately replaced by an authorized service facility before using the machine.*
- ☞ *Always keep the seat belt and buckle clean, as dirt and debris may cause the buckle to malfunction and accelerate internal webbing abrasion in the belt.*
- ☞ *Seat belt buckle must not be obstructed by foreign bodies (paper or similar); otherwise the buckle latch cannot lock into place!*



WARNING

Personal injury hazard. After an accident the belt strap is stretched and no longer serviceable. The seat belt will NOT provide adequate protection in the future!

- ☞ *Replace the seat belt after an accident.*
- ☞ *Have fastening points and seat fixture examined for damage or failure. Repair or replace if damaged.*

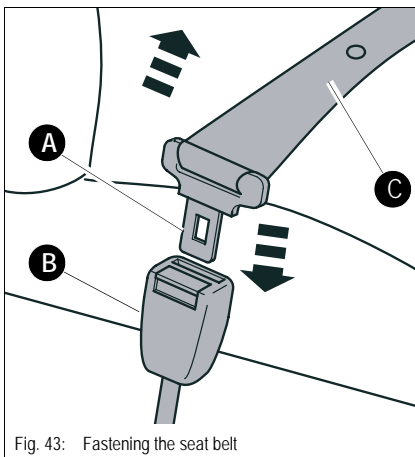


Fig. 43: Fastening the seat belt

Seat belt C is for the operator's safety during work on construction sites and during road travel.

Fastening the seat belt:

- ☞ *Fasten seat belt C as follows before operating the machine:*
 - Hold belt on buckle latch **A** and run it slowly and steadily over the hips to buckle **B**.
 - Insert buckle latch **A** into buckle **B** with an audible click (**pull test**).



Important

Fasten the seat belt only if the rollbar is raised.

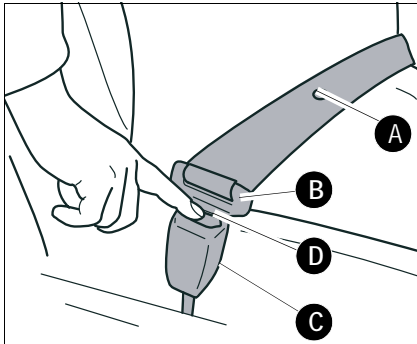


Fig. 44: Unfastening the seat belt

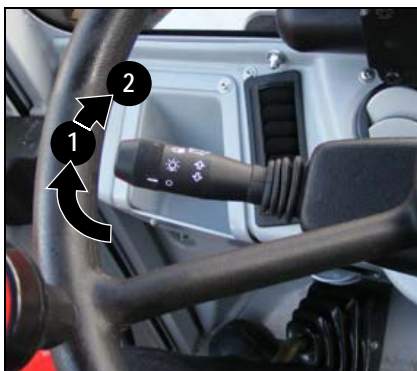
Unfastening the seat belt:

☞ *Unfasten seat belt A as follows:*

- Hold the seat belt.
- Press red button D on buckle C.
☞ Latch B is released from buckle C by spring pressure.
- Slowly return the seat belt to the retractor.

3.13 Light system

Road travel lights



Switch on the light system when driving on public roads and places, with rotary switch 21.

Road travel lights		
ON	☞ Turn rotary switch 21 to the 1st position	☞ Clearance lights switched ON
ON	☞ Turn rotary switch 21 to the 2nd position	☞ Low beam switched ON
OFF	☞ Turn rotary switch 21 to the front	☞ Lights switched OFF

Position 1:

☞ The clearance lights are switched on at the front and rear of the machine.

Position 2:

☞ Low beam is switched ON.



Fig. 45: Road travel lights

Multifunctional lever

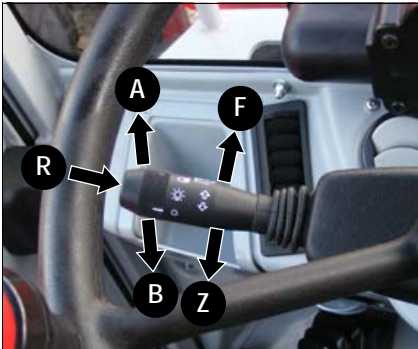


Fig. 46: Multifunctional lever

The horn, the turn indicators and high beam are actuated with lever **21** on the steering wheel.

Light switch		
Turn indicators (left)	Pull lever 21 backward <i>Z</i>	➡ Left-hand side turn indicators flash
Turn indicators (right)	Push lever 21 forward <i>F</i>	➡ Right-hand side turn indicators flash
Headlight flasher	Pull lever 21 upward <i>A</i>	➡ High beam is ON as long as the lever is pulled upward
High beam (ON)	Push lever 21 down <i>B</i>	➡ High beam (ON)
Horn	Push lever 21 toward the steering column <i>E</i>	➡ The horn sounds

Interior light (cab option)



Fig. 47: Interior light

Interior light	
ON	Press switch to the left or right
OFF	Move switch to center position

Rotating beacon (option)



Fig. 48: Rotating beacon

The rotating beacon (option) is switched on automatically as soon as ignition is switched on.



Important

Observe the legal regulations of your country for operating the rotating beacon.

Working lights (cab option)

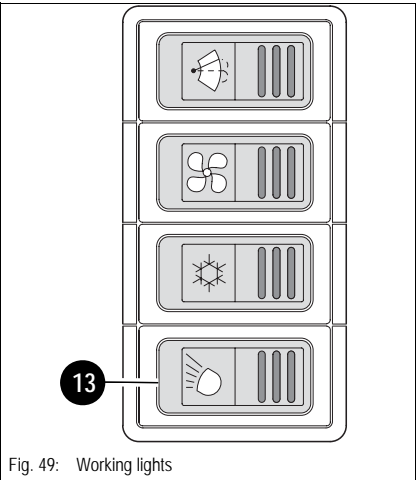





Fig. 49: Working lights

Working light		
ON	 Press switch 13 forward to the 1st position	➔ Front working light ON
ON	 Press switch 13 forward to the 2nd position	➔ Front and rear working lights ON
OFF	 Press switch 13 fully backward	➔ Lights switched OFF

3.14 Cab heating and ventilation

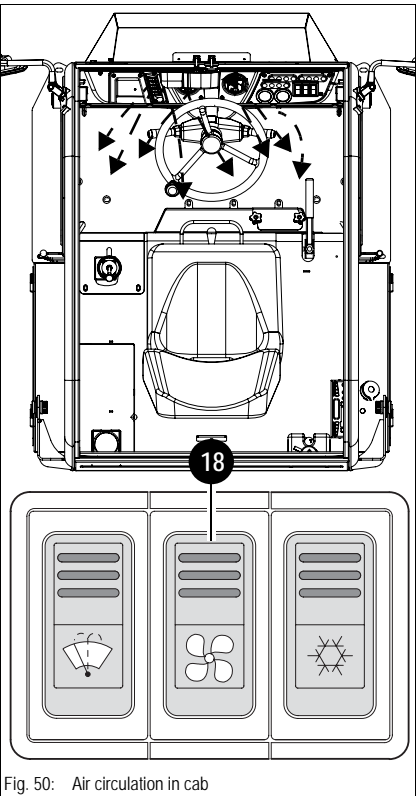






Fig. 50: Air circulation in cab

 **Important**

The cab is fitted with five air nozzles. Each nozzle can be closed and directed separately. In order to achieve best results for defrosting the front window, direct the air nozzles to the front window.

- Open or close the nozzles as required to vent or heat the cab.
- Do not place flammable or explosive material or objects near the nozzles.
- Air out the cab from time to time.

Ventilation (fresh air)		
1st speed	 Press switch 18 forward one step	➔ Low fan speed
2nd speed	 Press switch 18 forward two steps	➔ High fan speed
OFF	 Press switch 18 to the rear	➔ Fan OFF

3.15 Air conditioning (option)

In order to achieve best cooling results:

☞ *Open the nozzles and direct them toward the headliner – see Cab heating and ventilation on page 3-28.*

➡ This setting ensures good air circulation in the cab as the cool air flows to the cab floor.

☞ *Keep all windows and doors closed.*

☞ *Air the cab from time to time.*



Important

Open the windows and the doors to allow hot air to escape. Then switch on air conditioning, and close the windows and the doors. Keep all windows and doors closed to achieve best cooling results.

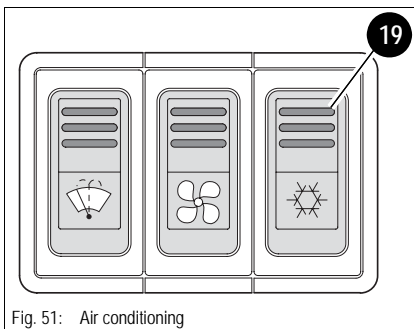


Fig. 51: Air conditioning

Air conditioning

OFF	☞ Press switch 19 up	Fan OFF
1st speed	☞ Press switch 19 (ventilation) 1 step down	➡ Low fan speed
2nd speed	☞ Press switch 19 (ventilation) 2 steps down	➡ High fan speed



Important

Let the air conditioning system run once a month for at least 10 – 15 minutes, to ensure the system's full capability and the durability of the seals – see *Air conditioning (option)* on page 3-29.

3.16 Washer system

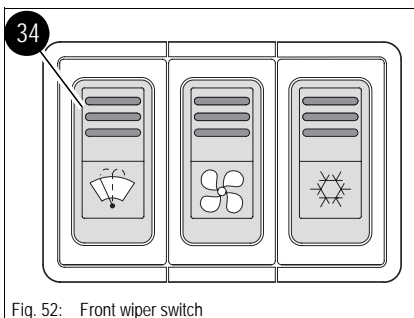


Fig. 52: Front wiper switch

Front window wiper

OFF	☞ Press switch 34 up	➡ Front wiper returns to base position
1st speed	☞ Press switch 34 down to the 1st position	➡ Front wiper is on
2nd speed	☞ Press switch 34 down to the 2nd position	➡ Pump sprays washer water on the window



Important

Do not actuate the washer system if the tank is empty, otherwise this may damage the electric pump.

Tank for washer system

The tank is located at the rear right of the cab



Important

In winter: add antifreeze for washer systems to the water.

Refer to the antifreeze instructions for further information on concentrations.

The rubber diaphragm in the non-return valve in the housing conglutinates **if stored in a dry condition over a longer period of time**. In order to restore this valve's function, moisten this non-return valve, dip it briefly in water and then blow air through it.



Fig. 53: Tank for washer system

3.17 Doors



CAUTION

Possible equipment damage or injury to others. An open door on a moving machine may slam against the machine, damaging the door frame or window glass. The door may also strike nearby objects or people.

Always make sure that doors and windows are securely closed before moving the machine.

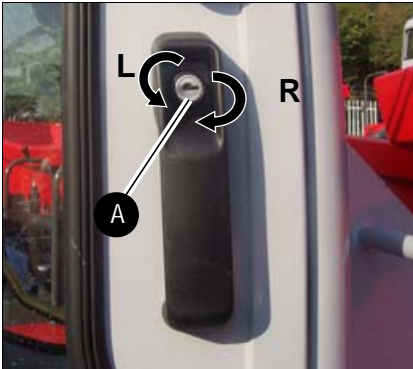


Fig. 54: Outside door openers and locks

Opening the doors from the outside:

☞ Press door locks A.

Locking the doors:

☞ Turn the key in door locks A to the **left (L)**.

☞ The doors are locked.

Unlocking the doors.

☞ Turn the key in door locks A to the **right (R)**.

☞ The doors are unlocked.

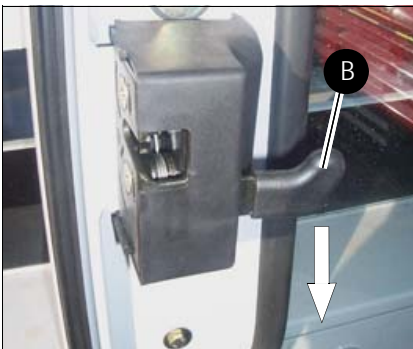


Fig. 55: Inside left door opener

Opening the doors from the inside.

☞ Press the lever on the inside on door locks B down.

Door arresters

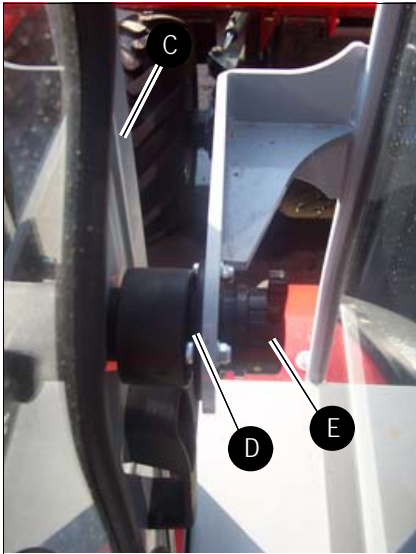


Fig. 56: Door arresters

Locking the doors in the arresters:

- ☞ Press doors *C* against brackets *D* of the arresters until they engage with an audible click.

Releasing the door:

- ☞ Turn twist knob *E* to the right
 - ➡ The doors are released



3.18 Working with the machine

General safety instructions

- Avoid traveling near the edge of an excavation.
- Do not drive underneath projecting earth. Stones or the projecting earth can fall onto the machine.
- When working on roofs or similar structures, check the resistance and the structure itself before starting work. The building can collapse, causing severe injury and damage.
- Do not place the machine directly underneath the workplace during demolition, otherwise demolished parts can fall onto the machine or the building can collapse, causing severe injury or damage.
- Operation of the machine by unqualified operators is prohibited!
- The hydraulic system of the machine is still pressurized even when the engine is not running! Release the pressure in the sections of the system and hydraulic lines which are to be opened before starting setup or repair work.
- Before dumping out the dump bucket next to an excavation, secure the machine with suitable wheel chocks or other auxiliary means.
- Always watch the material as you dump out the dump bucket: make sure the material is dumped out evenly and does not remain stuck in the dump bucket, otherwise the machine could tip over
- Do not dump the load when working on sloping ground.
- No transporting of persons, animals, etc. in the dump bucket.
- Always make precise and smooth control movements, not abrupt movements.
- Do not get on or off the machine when it is moving.
- Avoid dangerous work conditions on the work site, do not work in severe weather and make sure no-one is at risk.
- Always fasten your seat belt when working with machines with rollover protection structures.

3.19 Front dump bucket operation



Important

Do not drive the machine with a raised dump bucket.

☞ *Make sure the dump bucket is completely lowered before driving the machine.*

The working speed of the dump bucket is set with the bucket control lever and the accelerator pedal.

NOTICE: Lowering the dump body too rapidly and knocking it against the chassis may cause machine damage



WARNING

Crushing hazard. Lowering the dump bucket rapidly may cause the machine to tip over.

☞ *Do not lower the dump bucket rapidly*

When dumping into a pit:

- Always be certain the ground around the pit can support the weight of the machine and the load.
- Always place the forward-reverse control in the neutral position.
- Always use a secondary means of braking such as a beam to chock the front wheels.



Fig. 57: Front dump bucket operation

Position	Lever	Function
A	☞ <i>Lever pushed forward</i>	☞ Dumps out the dump bucket
B	☞ <i>Lever pulled backward</i>	☞ Lowers the dump bucket

3.20 Swivel dump bucket operation

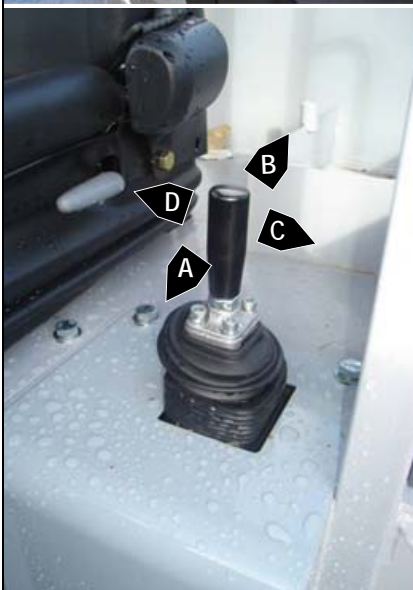
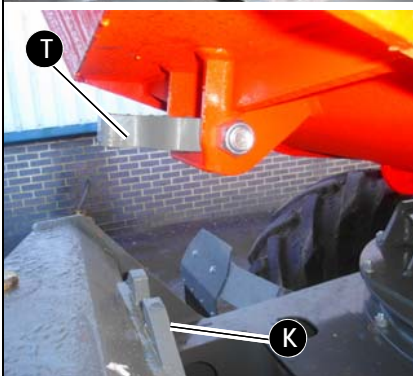
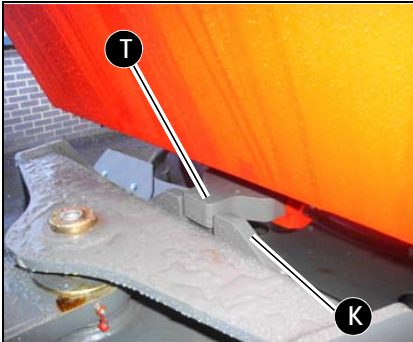


Fig. 58: Swivel dump bucket operation



CAUTION

The working speed of the dump bucket is set with the bucket control lever and the accelerator pedal.

Material that sticks in the dump bucket shall be dumped out only to the front in the straight-ahead position of the dumper.

NOTICE: Lowering the dump body too rapidly and knocking it against the chassis may cause machine damage



WARNING

Crushing hazard. Lowering the dump bucket rapidly may cause the machine to tip over

Do not lower the dump bucket rapidly.

Set the dump bucket to the required position before dumping out the dump bucket.

Position	Lever	Function
A	Lever forward	Dumps out the dump bucket
B	Lever pulled backward	Lowers the dump bucket
C	Lever to the left	Dump bucket swivels to the left
D	Lever to the right	Dump bucket swivels to the right

Swiveling the dump bucket:

Before swiveling the dump bucket, press the lever forward to raise it until lock cog T is raised from lock recess K.

The dump bucket can then be swiveled.

The normal position of the dump bucket is the position in which the dump bucket is in center position and in which lock cog T engages in lock recess K.

3.21 Rollbar

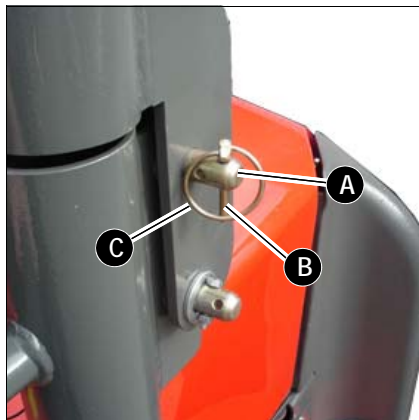


Fig. 59: Rollbar



CAUTION

Personal injury hazard. The rollbar is very heavy and should not be raised or lowered by one person.

☞ *Two persons are required for raising or lowering the rollbar.*



Important

Fasten the seat belt only if the rollbar is raised.

Raising the rollbar:

- ☞ *Place the machine on level ground.*
- ☞ *Raise the rollbar with the help of a second person.*
- ☞ *Secure the rollbar with lock pins A.*
- ☞ *Secure lock pins A with split pins B.*
- ☞ *Fold down ring C.*
- ➡ *Split pin B cannot fall out.*

Lowering the rollbar:

- ☞ *Place the machine on level ground.*
- ☞ *Fold up ring C.*
- ☞ *Remove split pins B from lock pins A.*
- ☞ *Remove lock pins A.*
- ☞ *Slowly and carefully lower the rollbar with the help of a second person.*

3.22 Towing

NOTICE: Improper towing may damage the machine.

- ☞ *The dumper is equipped with towing gear at the rear and a towing lug at the front. Only this equipment may be used for towing.*
- ☞ *Open the high-pressure circuit before towing the machine.*

Opening the high-pressure circuit

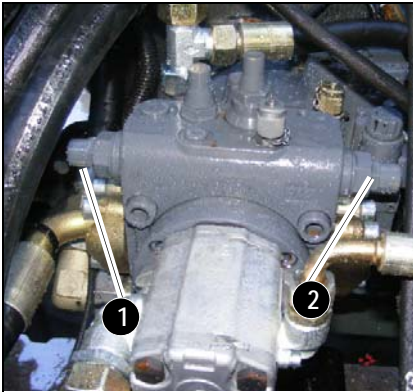


Fig. 60: Opening the high-pressure circuit

There are two HP pressure limiting valves on the pump under the floor panel, one on the upper left and the other on lower left.

Proceed as follows:

- ☞ *Slacken locknut ws 14 (part 2) and unscrew it to the end of the screw.*
- ☞ *Screw in the screw with an allen key ws 4 part 1 until it is flush with the nut*
- ☞ *Retighten the locknut.*
- ☞ *You can now slowly tow the machine (max. 1 kph/0.62 mph) over a short distance (max. 1 km/0.62 miles).*
- ☞ *Then put the valves back into operation again! Proceed in the reverse order to do this (unscrew the screw as far as it will go).*

3.23 Articulated steering locking bar

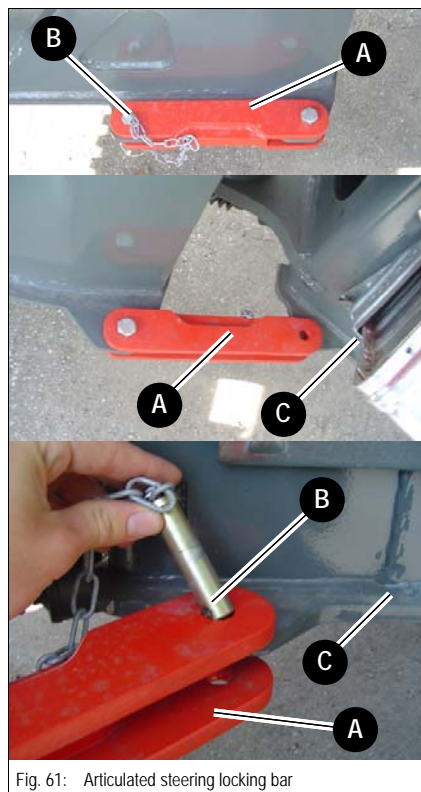


Fig. 61: Articulated steering locking bar



WARNING

Personal injury hazard. An unlocked articulated joint may cause unexpected machine movement while the machine is being lifted.

- ☞ Secure the steering ram with the articulated steering locking bar when lifting the machine by the lift points.

The articulated steering locking bar secures the steering ram to prevent steering movements (via the articulated joint) when lifting the dumper.

Procedure to follow:

- ☞ Remove the spring plug from pin B.
- ☞ Rotate articulated steering locking bar A toward rear chassis C.
- ☞ Secure articulated steering locking bar A with the spring plug on pin B.



Important

Before putting the machine into operation again, mount the articulated steering locking bar back onto the front chassis again by means of pin B.

3.24 Locking the control lever (5001)

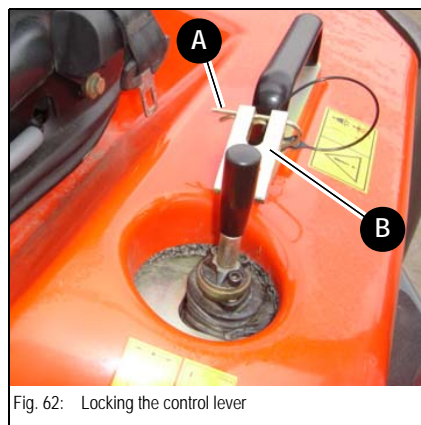


Fig. 62: Locking the control lever



CAUTION

Personal injury hazard. An unlocked control lever may cause unintentional actuation of the dump bucket.

- ☞ Lock the control lever for the dump bucket while traveling.

Lock as follows:

- ☞ Remove split pin A from lock B.
- ☞ Fold lock B to the front.
- ☞ Insert split pin A in lock B.

Unlock in the reverse order!

3.25 Locking the control lever (6001)

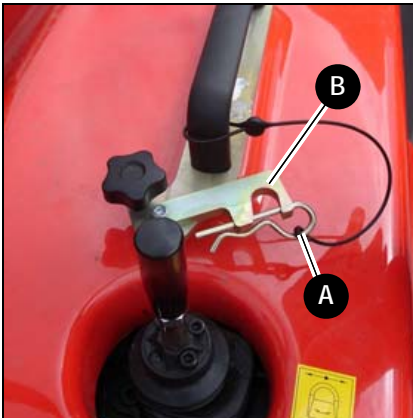


Fig. 63: Locking the control lever



CAUTION

Personal injury hazard. An unlocked control lever may cause unintentional actuation of the dump bucket.

☞ *Lock the control lever for the dump bucket while traveling.*

Lock as follows:

- ☞ *Remove split pin A from lock B.*
- ☞ *Fold lock B to the front.*
- ☞ *Insert split pin A in lock B.*

Unlock in the reverse order!

3.26 Lifting the machine

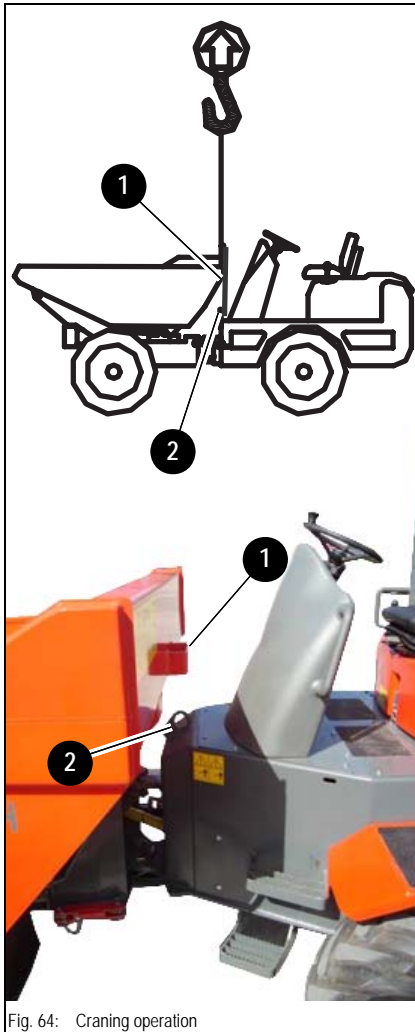


Fig. 64: Craning operation

Safety instructions



WARNING

Crushing hazard.

- ❗ Do not lift the machine with someone in the operator seat/station or on the machine.
- ❗ Secure the machine against unintentional movement.
- ❗ Persons responsible for attaching the lifting devices to the machine shall be experienced with crane operations and hand signals. The crane operator shall maintain sight of the personnel attaching, guiding and unhooking the dumper.
- ❗ Use OSHA-rated and approved lifting devices capable of lifting the dumper, attachments, options and accumulated debris. Refer to the general weight guidelines in the specification section of this manual.
- ❗ Do not lift the machine with material in the dump bucket.
- ❗ The crane operator shall observe the lift zone and lift the machine when the area is clear of people.
- ❗ Do not attempt to lift the dumper with any type of crane including wheel loaders unless the crane operator is qualified to lift loads in craning operations.

❗ Load the machine as follows:

- Empty the dump bucket.
- Lower the dump bucket.
- Stop and park the machine
- Lock the control lever [3-38](#)
- The rollbar can be lowered to reduce the transport height.
- Put the articulated steering locking bar in place.
- Use suitable lifting gear, chains, etc.
- ❗ Make the lifting gear pass through bracket 1 on the edge of the dump bucket and fasten it on eye hook 2 on the chassis!
- Slowly raise the machine.

3.27 Loading and transporting the machine

Safety instructions

- The transport vehicle must be of adequate size—refer to [Chapter 6 "Specifications"](#) for the machine's dimensions and weights!
- Remove any mud, snow or ice from the tires so that the machine can be safely driven onto the ramps
- Secure the machine against unintentional movement – see *Parking the machine* on page 3-22!



Important

Possible injury or equipment damage from improper loading and transporting.

Read the safety instructions at the beginning of this chapter and follow any other local safety regulations regarding loading and transporting the machine.

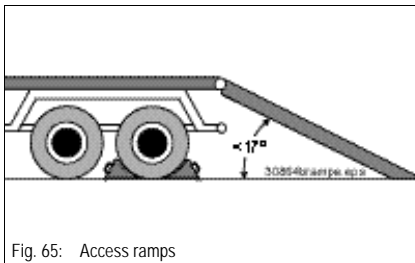


Fig. 65: Access ramps

Load as follows:

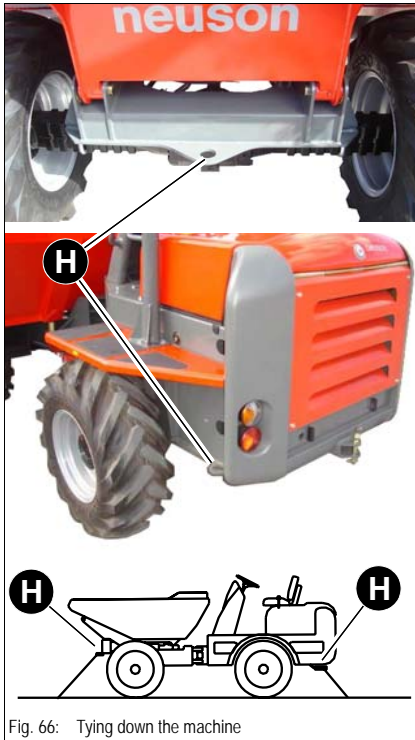
- Secure the transport vehicle with chocks to prevent it from rolling.
- Place the access ramps at the smallest possible angle. Make sure the grade does not exceed 17° (30 %). Use access ramps with an antiskid surface only.
- Make sure the loading area is clear and access to it is not obstructed—e.g., by superstructures.
- Make sure the ramps and the tires of the dumper are free of oil, grease and ice
- Start the engine of the dumper.
- Lower the dump bucket of the dumper.
- Carefully reverse the dumper onto the middle of the transport vehicle.
- Stop and park the machine.



Important

The manufacturer's warranty shall not apply to accidents or damage caused by loading or transporting the dumper.

3.28 Tying down the machine



i Important

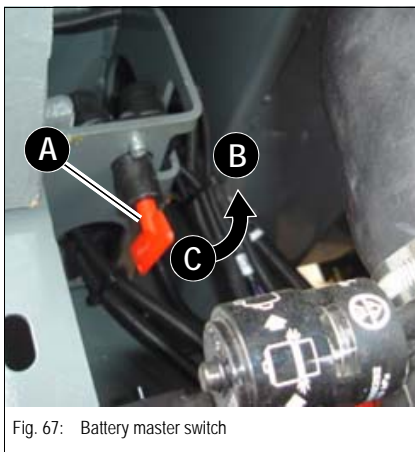
Possible injury or equipment damage from improper tie-down procedure.

• *Read the safety instructions at the beginning of this chapter and follow any other local safety regulations regarding tie-down of the machine.*

- Secure the wheels of the dumper at the front, rear and at the sides.
- Firmly strap down the dumper at the eye hooks **H** onto the platform, with belts or chains of adequate size.
- Make sure the driver of the transport vehicle knows the overall height, width and weight of his vehicle (including the dumper) before transporting, and the legal transport regulations of the country or countries in which transport will take place!

3.29 Battery master switch

5001



The battery master switch is located under the engine cover. The battery master switch is located behind the right-hand side maintenance flap on machines equipped with an optional cab.

i Important

Do not disconnect the battery while the engine is running.

i Important

Power supply is interrupted directly after the battery, by means of a key.

• *Disconnect the battery before working on the electric system.*

Interrupting power supply:

• *Turn key A of the battery master switch to position B and remove it.*

Switching on power supply:

• *Insert key A in the battery master switch.*

• *Turn the key down to the notched position C.*

6001

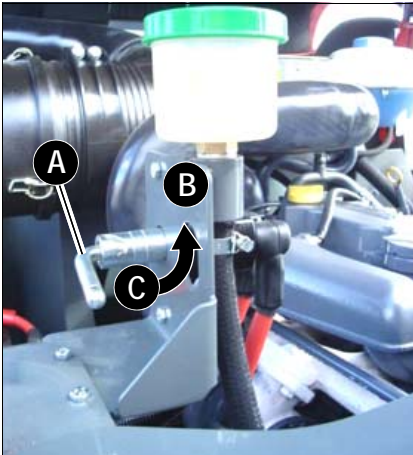


Fig. 68: Battery master switch (6001)

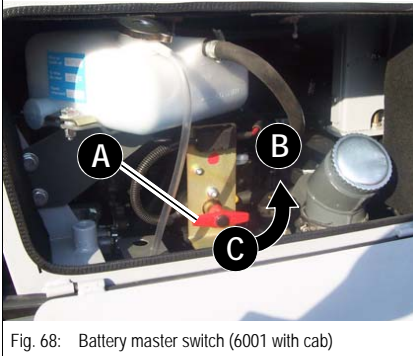


Fig. 68: Battery master switch (6001 with cab)

The battery master switch is located under the engine cover. The battery master switch is located behind the right-hand side maintenance flap on machines equipped with an optional cab.



Important

Do not disconnect the battery while the engine is running.



Important

Power supply is interrupted directly after the battery, by means of a key.

- *Disconnect the battery before working on the electric system.*

Interrupting power supply:

- Turn key A of the battery master switch to position B and remove it.

Switching on power supply:

- Insert key A in the battery master switch.
- Turn the key down to the notched position C.

3.30 Engine cover (machines without cab)



Opening:

- ☞ Stop the machine.
- ☞ Let the engine cool down.
- ☞ Press buckle **A** of the engine cover downward and pull shackle **C** to the front.
- ☞ Pull the engine cover upward with handles **B** until the red safety prop **S** locks into place.

Closing:

- ☞ Press safety prop **S** to the rear.
- ☞ Press down the engine cover.
- ☞ Press buckle **A** forward and hitch shackle **C** into the hook at the same time.
- ☞ Press lock **A** to the rear.

Locking and unlocking:

The engine cover can be locked with an external lock in eyelet **D**.

Do not lock the engine cover during machine operation!

The emergency switch is located underneath the engine cover.

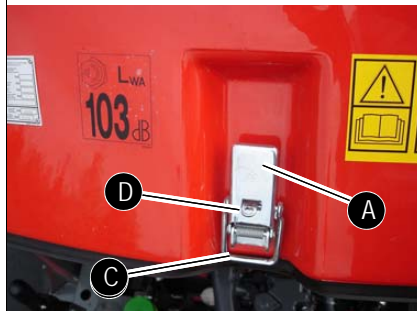


Fig. 69: Engine cover lock



4 Troubleshooting

The information given in this chapter is provided for maintenance staff, for fast and reliable detection of malfunctions and their appropriate repair.

Repairs must be performed by authorized staff.

4.1 Engine trouble

Problem	Possible causes	See
Engine does not start or is not easy to start	Wrong SAE grade of engine lubrication oil	5-33
	Fuel grade does not comply with specifications	5-33
	Defective or flat battery	5-30
	Loose or oxidized cable connections in starter circuit	
	Defective starter, or pinion does not engage	
	Wrong valve clearance	
	Defective fuel injector	
Engine starts, but does not run smoothly or faultless	Fuel grade does not comply with specifications	5-33
	Wrong valve clearance	
	Injection line leaks	
	Defective fuel injector	
Engine overheats. Temperature warning system responds	Oil level too low	5-9
	Oil level too high	5-9
	Dirty air filter	5-14
	Dirty oil radiator fins	
	Defective fuel injector	
Insufficient engine output	Oil level too high	5-9
	Fuel grade does not comply with specifications	5-33
	Dirty air filter	5-14
	Wrong valve clearance	
	Injection line leaks	
	Defective fuel injector	
Engine does not run on all cylinders	Injection line leaks	
	Defective fuel injector	
Insufficient or no engine oil pressure	Oil level too low	5-9
	Machine inclination too high (max. 25 %)	
	Wrong SAE grade of engine lubrication oil	5-33
Engine oil consumption too high	Oil level too high	5-9
	Machine inclination too high (max. 25 %)	



Problem		Possible causes	See
Engine smoke	Blue	Oil level too high	5-9
		Machine inclination too high (max. 25 %)	
	White	Engine starting temperature too low	
		Fuel grade does not comply with specifications	5-33
		Wrong valve clearance	
		Defective fuel injector	
	Black	Dirty air filter	5-14
		Wrong valve clearance	
		Defective fuel injector	



5 Maintenance

5.1 Introduction

Operational readiness and the service life of machines are heavily dependent on maintenance.

It is therefore in the interest of the machine owner to perform the prescribed maintenance work.

Before performing service and maintenance work, always read, understand and follow the instructions given in:

- Chapter 2 "SAFETY INSTRUCTIONS" of this Operator's Manual

Perform the prescribed inspections and rectify any disorders before putting the machine into operation.

Secure open (engine) covers appropriately. Do not open (engine) covers on slopes or in strong wind.

When using compressed air, dirt and debris may be blown into your face. Therefore, wear protective glasses, masks and clothing when using compressed air.

Daily service and maintenance work and maintenance according to maintenance plan "A" must be performed by a specifically trained operator. All other maintenance work must be performed by trained and qualified staff only.

The maintenance plans indicate when the maintenance work mentioned below must be performed – [see Maintenance plan \(overview\)](#) on page 5-35.

5.2 Maintenance strut

Maintenance strut 5001

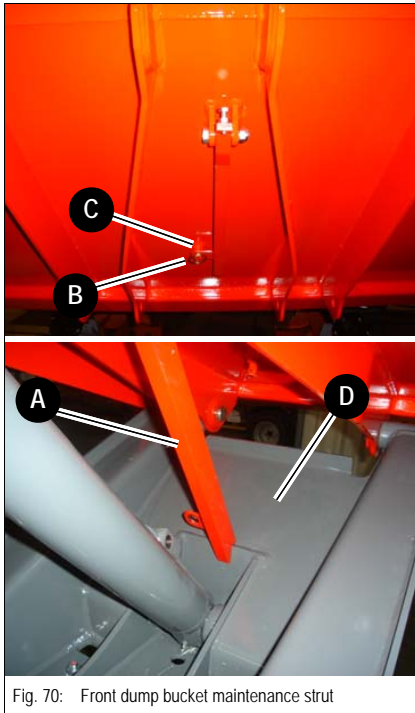


Fig. 70: Front dump bucket maintenance strut



WARNING

Crushing or striking hazard. An improperly supported dump bucket can fall unexpectedly during maintenance work.

- ☞ *Fold down the red maintenance strut before you perform maintenance work with the dump bucket raised.*

Procedure to follow:

- ☞ *Raise the dump bucket.*
- ☞ *Remove split pin B.*
- ☞ *Maintenance strut A is folded down.*



WARNING

Personal injury hazard. Persons can be struck or crushed by a dump bucket that is being lowered too quickly.

- ☞ *To insert the retaining pin, slowly and carefully lower the dump bucket to align the hole in the bracket with the hole in the maintenance strut.*

- ☞ *Lower the dump bucket until maintenance strut A rests on support D.*



Important

Fasten maintenance strut A on the dump bucket again (in the reverse order) once maintenance work is over.

Front dump bucket maintenance strut (6001)

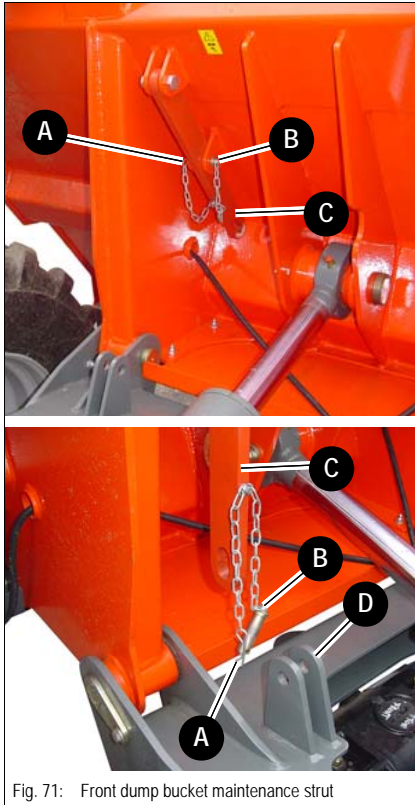


Fig. 71: Front dump bucket maintenance strut



WARNING

Crushing or striking hazard. An improperly supported dump bucket can fall unexpectedly during maintenance work.

- ✎ Fold down the red maintenance strut before you perform maintenance work with the dump bucket raised.

Procedure to follow:

- ✎ Raise the dump bucket.
- ✎ Remove split pin A out of lock pin B.
- ✎ Pull out lock pin B.
- ✎ Hold maintenance strut C as you do so.
- ✎ Fold down maintenance strut C.



WARNING

Personal injury hazard. Persons can be struck or crushed by a dump bucket that is being lowered too quickly.

- ✎ To insert the retaining pin, slowly and carefully lower the dump bucket to align the hole in the bracket with the hole in the maintenance strut.

- ✎ Lower the dump bucket until maintenance strut C fits into bracket D.
- ✎ Fasten maintenance strut C in bracket D with lock pin B.
- ✎ Insert split pin A in lock pin B.



Important

Fasten maintenance strut C on the dump bucket again (in the reverse order) once maintenance work is over.

Swivel dump bucket maintenance strut (6001)

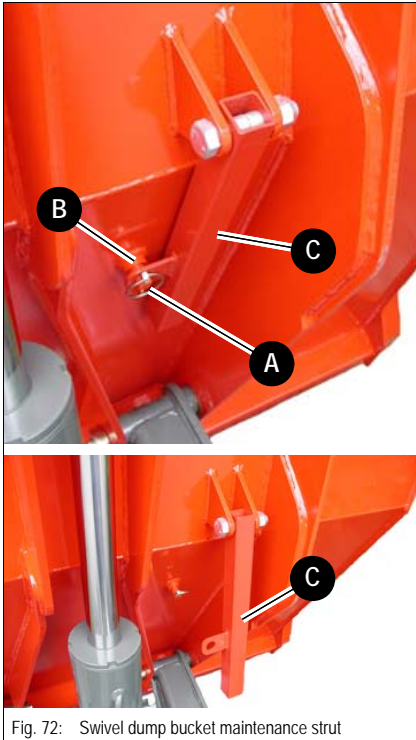


Fig. 72: Swivel dump bucket maintenance strut

**WARNING**

Crushing or striking hazard. An improperly supported dump bucket can fall unexpectedly during maintenance work.

- ❗ *Fold down the red maintenance strut before you perform maintenance work with the dump bucket raised.*

Procedure to follow:

- ❗ *Raise the dump bucket.*
- ❗ *Remove split pin A out of lock pin B.*
- ❗ *Fold down maintenance strut C.*
- ❗ *Lower the dump bucket slowly until the strut is supported on the dump bucket swivel frame.*

**Important**

Fasten maintenance strut C on the dump bucket again (in the reverse order) once maintenance work is over.

5.3 Fuel system

Specific safety instructions



WARNING

Fire and fume inhalation hazards.

☞ *Do not refuel in closed rooms.*

☞ *Never perform maintenance or repair work on the fuel system in the vicinity of open flames or sparks.*

☞ *Never smoke when working on the fuel system or when refueling.*

☞ *Before refueling, stop the engine and remove the starter key.*

☞ *Wipe up any fuel spills immediately.*

☞ *Remove spilled fuel from the machine components and surfaces before use to reduce the risk of fire.*

Refueling



Fig. 73: Refueling (6001)

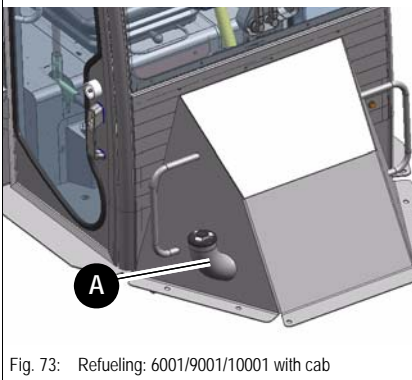


Fig. 73: Refueling: 6001/9001/10001 with cab

Filler inlet **A** for the fuel tank is located behind the right-hand side servicing lid.



Environment

Use a suitable container to collect the fuel as it drains and dispose of it in an environmentally friendly manner!



Important

Do not run the fuel tank completely dry. Otherwise, air is drawn into the fuel system. This requires bleeding the fuel system – [see Bleeding the fuel system](#) on page 5-7.



Important

Fill up the tank with the correct fuel type at the end of each working day. This prevents condensation water from forming in the fuel tank over night. Do not fill the tank completely but leave some space for the fuel to expand.

Stationary fuel pumps

General

Only refuel from stationary fuel pumps. Fuel from barrels or cans is usually contaminated. Even the smallest particles of dirt may cause

- Increased engine wear
- Malfunctions in the fuel system and
- Reduced effectiveness of the fuel filters.

Refueling from barrels

If refueling from barrels cannot be avoided, note the following points (see fig. 74):

- Barrels must neither be rolled nor tilted before refueling
- Protect the suction pipe opening of the barrel pump with a fine-mesh strainer
- Immerse it down to a max. 15 cm (5.9 in.) above the floor of the barrel
- Only fill the tank using refueling aids (funnels or filler pipes) with integral microfilter
- Keep all refueling containers clean at all times

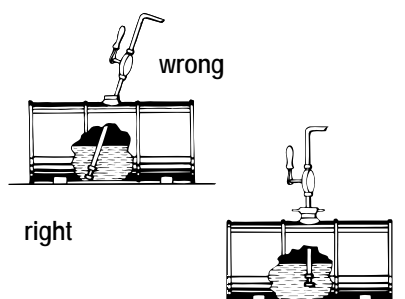


Fig. 74: Refueling from a barrel

Diesel fuel specification

Use only high-grade fuels


Grade	Cetane number	Use
• No. 2-D according to DIN 51601	Min. 45	For normal outside temperatures
• No. 1-D according to DIN 51601		For outside temperatures below 4 °C (39.2 °F) or for operation above 1500 m (4921 ft)


Bleeding the fuel system



WARNING

Fire and burn hazard. Draining fuel may ignite if it comes into contact with hot engine parts or the exhaust system. Hot fuel may cause burns.

 *Always wear protective equipment and safety glasses when working with fuel.*

 *Never bleed the fuel system if the engine is hot.*

Bleed the fuel system in the following cases:


- After removing and fitting the fuel filter, prefilter or the fuel lines back on again.
- After running the fuel tank empty.
- After running the engine again, after it has been out of service for a longer period of time.

Bleed the fuel system as follows:


 *Fill the fuel tank.*


 *Turn the starter key to the first position.*

 *Wait about 5 minutes while the fuel system bleeds itself automatically.*

 *Start the engine.*

If the engine runs smoothly for a while and then stops; or if it does not run smoothly:

 *Stop the engine.*

 *Bleed the fuel system again as described above.*

 *Have this checked by authorized staff if necessary.*

Replacing the fuel filter (Deutz diesel engine)

**WARNING**

Fire and burn hazard. Draining fuel may ignite if it comes into contact with hot engine parts or the exhaust system. Hot fuel may cause burns.

- ☞ *Always wear protective equipment and safety glasses when working with fuel.*
- ☞ *Never replace the fuel filter if the engine is hot.*

**Environment**

Use a suitable container to collect the fuel as it drains and dispose of it in an environmentally friendly manner!

Removing the fuel filter

Proceed as follows:

- ☞ *Place a suitable container underneath the filter.*
- ☞ *Unscrew screw A.*
 - ➔ The fuel runs out of the filter housing.
- ☞ *Empty the filter housing completely.*
- ☞ *Remove filter housing B.*
- ☞ *Replace the fuel filter.*

Installing the fuel filter

Proceed as follows:

- ☞ *Mount and tighten all elements in the reverse order with a new filter element.*
- ☞ *Bleed the fuel system – see [Bleeding the fuel system](#) on page 5-7.*
- ☞ *Make a test run—and check for tightness!*

**Environment**

Dispose of replaced fuel filters in an environmentally friendly manner!

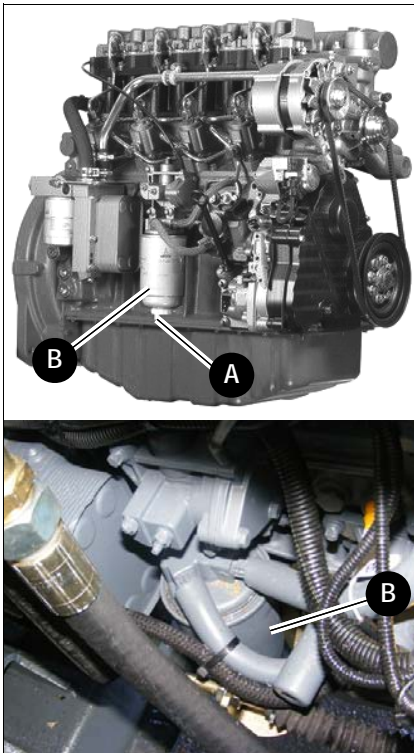


Fig. 75: Fuel filter (Deutz diesel engine)

5.4 Engine lubrication system

NOTICE: Possible engine damage or power loss due to improper oil management. If the engine oil level is too low or if an oil change is overdue, this may cause engine damage or a loss of power.

☞ Have the oil changed by an authorized service facility.

☞ Refer to chapter 5.15 "Maintenance plan (overview)" on page [5-35](#).

Checking the oil level

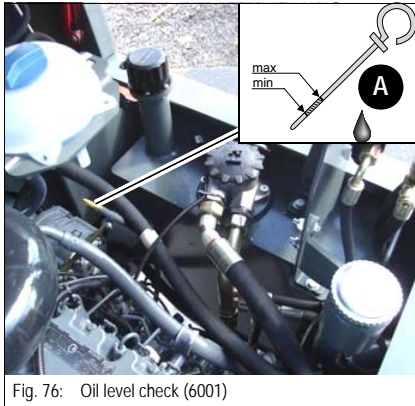


Fig. 76: Oil level check (6001)



Important

Check the oil level once a day.

We recommend checking it before starting the engine. After switching off a warm engine, wait at least 5 minutes before checking.

Checking the oil level

☞ Proceed as follows:

- Park the machine on level ground.
- Stop the engine!
- Let the engine cool down.
- Open the engine cover.
- Clean the area around the oil dipstick with a lint-free cloth.
- Oil dipstick **A**:

☞ Pull it out.

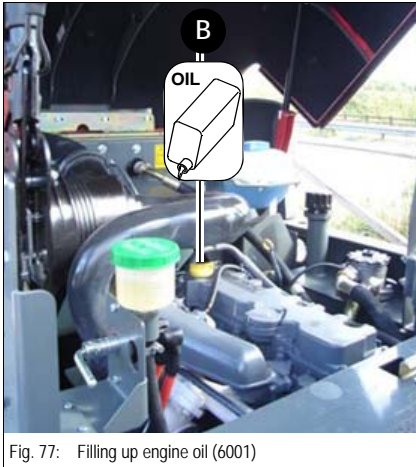
☞ Wipe it with a lint-free cloth.

☞ Push it back in as far as possible.

☞ Withdraw it and read off the oil level.

☞ However if necessary, fill up oil at the latest when the oil reaches the MIN mark on the oil dipstick **A**.

Filling up engine oil



NOTICE: Possible engine damage from too much oil or incorrect engine oil.

☞ Do not add engine oil above the MAX mark of oil dipstick 96/A.

☞ Use only the specified engine oil.



Environment

Use a suitable container to collect the engine oil as it drains and dispose of it in an environmentally friendly manner!

Filling up engine oil

☞ Proceed as follows:

- Clean the area around oil filler cap **B** with a lint-free cloth.
- Open filler cap **B**.
- Raise oil dipstick **A** slightly to allow any trapped air to escape.
- Add engine oil.
- Wait about 3 minutes until all the oil has run into the oil sump.
- Check the oil level – see *Checking the oil level* on page 5-9.
- Fill up if necessary and check the oil level again.
- Close filler cap **B**.
- Push oil dipstick **A** back in as far as possible.
- Completely remove all oil spills from the engine.

5.5 Engine cooling system

The oil/water radiator is located in the engine compartment, behind the engine. It cools the diesel engine and the hydraulic oil of the drive and work hydraulics.

The expansion tank for the coolant is located in the engine compartment next to the toolbox.

Checking/filling up coolant

NOTICE: Improperly maintaining the cooling system may cause engine damage.

- *Dirt on the radiator fins reduces the radiator's heat dissipation capacity.*
 - ▶ Clean the outside of the radiator at regular intervals. Use oil-free compressed air (2 bar max.) to clean. Maintain a certain distance from the radiator to avoid damage to the radiator fins. Refer to the maintenance plans in the appendix for the cleaning intervals.
 - ▶ In dusty or dirty work conditions, clean more frequently than indicated in the maintenance plans.
- *An insufficient coolant level reduces the heat dissipation capacity as well and may lead to engine damage:*
 - ▶ Check the coolant level at regular intervals. Refer to the maintenance plans for the recommended intervals.
 - ▶ If coolant must be added frequently, check the cooling system for leaks and/or contact your dealer.
 - ▶ Never add cold water/coolant if the engine is warm.
 - ▶ After filling the expansion tank, make a test run with the engine and check the coolant level again after switching off the engine.
- *The use of the wrong coolant may destroy the engine and the radiator.*
 - ▶ Add enough antifreeze compound to the coolant—but never more than 50 %. If possible use brand-name antifreeze compounds with anticorrosion additives.
 - ▶ Observe the coolant compound table – see chapter 6.12 "Coolant compound table" on page [6-7](#).
 - ▶ Do not use radiator cleaning compounds if an antifreeze compound has been added to the coolant—otherwise this causes sludge to form, which may damage the engine.



Environment

Use a suitable container to collect the coolant as it drains and dispose of it in an environmentally friendly manner!

Specific safety instructions



CAUTION

Burn hazard. The coolant in the system is hot under normal operating conditions and under about 1 bar (15 psi) pressure.

- ☞ *Never open the coolant tank or drain coolant if the engine is hot.*
- ☞ *Wait at least 15 minutes after stopping the engine.*
- ☞ *Wear protective glasses, gloves and clothing.*
- ☞ *Open filler cap B to the first notch and allow the pressure to escape.*
- ☞ *Do not proceed with checking, maintaining or repairing the cooling system unless the components are comfortable to touch (less than 49 °C/120 °F).*



CAUTION

Hazardous material. Coolant mixtures are poisonous and flammable. Contact with skin and eyes should be avoided.

- ☞ *Wash skin immediately to remove coolant mixture from the skin to avoid irritation.*
- ☞ *Wash eyes immediately if coolant comes in contact with the eye. Seek medical attention immediately.*
- ☞ *Store coolant concentrate and mixtures in a secure space to prevent unauthorized contact.*
- ☞ *Do not store or use coolant or coolant mixtures near open flames including smoking materials.*
- ☞ *Dispose of used coolant through approved methods for recycling. Do not dispose of coolant or mixtures in sewers, toilets or by dumping on the ground.*

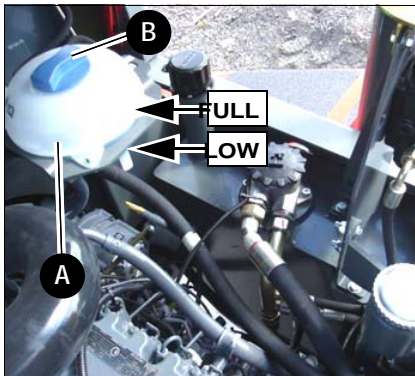


Fig. 78: Expansion tank for coolant (6001)

Checking the coolant level

Proceed as follows:

- Park the machine on level ground.
- Stop the engine!
- Remove the key and carry it with you.
- Let the engine and the coolant cool down.
- Open the engine cover.
- Check the coolant level on the transparent coolant tank **A** and on the radiator **B**.
- If the coolant level is below the **LOW** seam or if there is no coolant at the radiator's filler inlet:
- Add coolant to the coolant tank.



Important

Check the coolant level once a day.
We recommend checking it before starting the engine.

Filling up coolant

After the engine has cooled down:

- Release overpressure in the radiator*
- Carefully open the cap to the first notch and fully release the pressure*
- Open filler cap B*
- Add coolant up to the lower edge of the filler inlet (radiator)*
- Close filler cap B*
- Start the engine and let it warm up for about 5 – 10 minutes*
- Stop the engine*
- Remove the key and carry it with you*
- Let the engine cool down*
- Check the coolant level again*
- ➔ The coolant level must be between the **LOW** and **FULL** tank seams
- If necessary, add coolant and repeat the procedure until the coolant level remains constant*



Important

Check the antifreeze every year before the cold season sets in!

5.6 Air filter

NOTICE: Possible equipment damage. The filter cartridge will be damaged if it is washed or brushed out.

Keep in mind the following to avoid premature engine wear:

- ☞ Do not clean the filter cartridge.
- ☞ Replace the filter cartridge when the indicator comes on.
- ☞ Never reuse a damaged filter cartridge.
- ☞ Ensure cleanliness when replacing the filter cartridge.

Control element **A** on the air filter monitors the filter cartridge.

☞ Replace filter **B** if:

- Control element **A** indicates air filter contamination
- According to the maintenance plan



Important

For applications in especially dusty environment, replace or clean the air filter more frequently.

NOTICE: Filter cartridge degradation. Filter cartridges degrade prematurely in environments with acidic air, such as acid production facilities, steel and aluminum mills, chemical plants and other nonferrous-metal plants.

☞ Replace filter **B** after no more than 50 service hours.

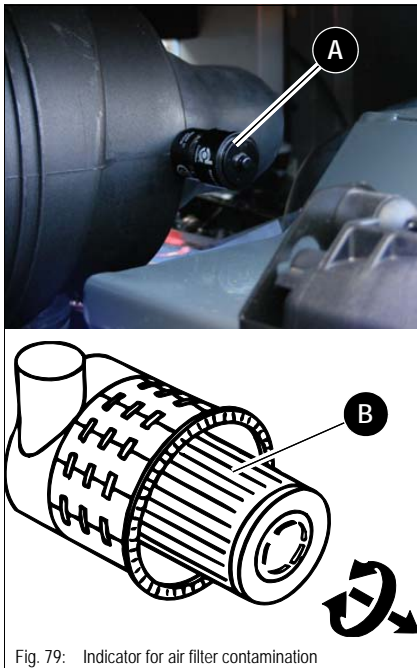


Fig. 79: Indicator for air filter contamination

General instructions for air filter maintenance:

- Store filters in their original packaging and in a dry place.
- Do not knock the filter against other objects as you install it.
- Check air filter attachments, air intake hoses and air filters for damage, and immediately repair or replace if necessary.
- Check the screws at the induction manifold and the clamps for tightness.

Replacing the filter

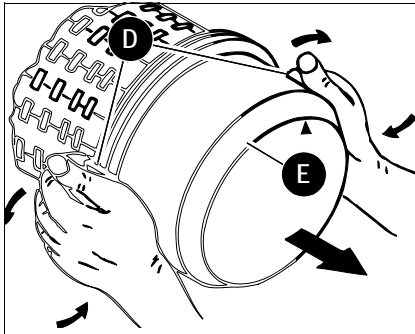


Fig. 80: Removing the lower housing section

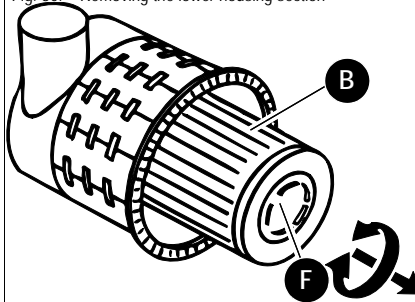


Fig. 81: Removing the filter element

- Replace filter **A** as follows:

- Stop the engine.
- Remove the key and carry it with you.
- Let the engine cool down.
- Open the engine cover.
- Remove dirt and dust from the air filter and the area around the air filter.
- Fold both bow clips **D** on lower housing section **E** to the outside.
- Remove lower housing section **E**.
- Unscrew wing nut **F**.
- Carefully remove filter **B** with slightly turning movements.
- **Make sure** all dirt (dust) inside the air filter housing has been removed.
 - Clean the parts with a clean lint-free cloth, do not use compressed air.
- Check the air filter cartridges for damage, only install intact filters.
- Carefully insert the new filter **B** in the air filter housing.
- Position lower housing section **E** (make sure it is properly seated).
- Close both bow clips **D**.

5.7 V-belt



CAUTION

Crushing, cutting, or burn hazards.

- ☞ Stop the engine and permit a cool-down time. Wait until the engine is comfortable to touch.
- ☞ Only check, retighten, or replace the V-belt when the engine is stopped.
- ☞ Disconnect the battery or the battery master switch before proceeding with work on the V-belt.

NOTICE: Cracked and stretched V-belts cause engine damage.

- ☞ Have the V-belt repaired by an authorized service facility.

Check the V-belt once a day or every 10 service hours, and retighten if necessary!

Retighten new V-belts after about 15 minutes of running time.

Checking V-belt tension

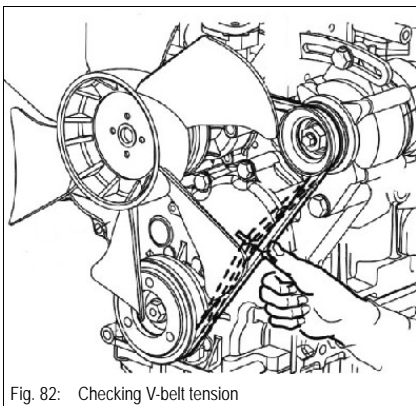


Fig. 82: Checking V-belt tension

- Check as follows:
 - ☞ Stop the engine.
 - ☞ Remove the key and carry it with you.
 - ☞ Disconnect the battery.
 - ☞ Let the engine cool down.
 - ☞ Open the engine cover.
 - ☞ Carefully check V-belt 1 for damage, cracks or cuts.
 - ☞ Replace the V-belt if it touches the base of the V-belt groove or the discs of the pulley.
- If the V-belt is damaged:
 - ☞ Have the V-belt replaced by authorized staff.
 - ☞ Press with your thumb about 100 N to check the deflection of the V-belt between the crankshaft disc and the fan wheel. A new V-belt should have a deflection of 6 to 8 mm (0.23 to 0.31"), a used V-belt (after about 5 minutes running time) should have a deflection of 7 to 9 mm (0.27 to 0.35").
 - ☞ Retighten the V-belt if necessary.

Retightening the V-belt

NOTICE: Possible engine damage. Overtightening the V-belt may damage the V-belt, the V-belt guide and the water pump bearing.

☞ Avoid contact of oil, grease or similar substances with the V-belt.

☞ Check V-belt tension—see "Checking V-belt tension on page [5-16](#).

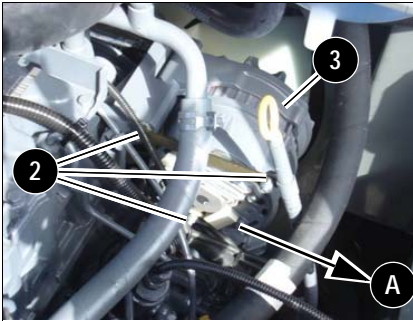


Fig. 83: Retightening the V-belt

- Retighten as follows:

- ☞ Stop the engine.

- ☞ Fold the control lever base up.

- ☞ Remove the key and carry it with you.

- ☞ Disconnect the battery or the battery master switch.

- ☞ Let the engine cool down.

- ☞ Open the engine cover.

- ☞ Slacken fastening screws **2** of alternator **3**.

- ☞ Use a suitable tool to push the alternator in the direction of arrow **A** until reaching the correct V-belt tension (fig. 83).

- ☞ Keep the alternator in this position, and at the same time retighten fastening screws **2**.

- ☞ Check V-belt tension again and adjust it if necessary.

- ☞ Connect the battery or the battery master switch.

- ☞ Close the engine cover.






5.8 Hydraulic system







Specific safety instructions



WARNING

Pressurized hydraulic oil hazard. Hydraulic oil escaping under high pressure can catch fire, damage property, penetrate the skin and cause severe burns and injuries.

-  *Do not operate the machine with leaking or damaged hydraulic system components.*
-  *Use a piece of cardboard to diagnose the source of hydraulic leaks.*
-  *Hydraulic oil can be hot and may cause serious burns if contact is made with skin. If contact occurs with hot oil, seek immediate medical attention and treatment for the burn.*
-  *Wear safety glasses to avoid eye contact. If oil contacts the eye flush immediately with clean water and seek emergency medical treatment.*
-  *Seek immediate medical attention if oil penetrates the skin. Oil may cause serious infections.*

- Release the pressure in all lines carrying hydraulic oil prior to any maintenance and repair work. To do this:
 - Lower all hydraulically controlled attachments
 - Move all control levers of the hydraulic control valves several times
- Hydraulic oil escaping under high pressure can penetrate the skin and cause serious injuries. Always consult a doctor immediately even if the wound seems insignificant—otherwise serious infections could set in!
- If the hydraulic oil in the sight glass is cloudy, this indicates that water or air has penetrated the hydraulic system. This may cause damage to the hydraulic pump!
- Oil flowing out of high pressure lines may cause fire or malfunctions, and severe injuries or damage to property. Interrupt work immediately if slack nuts or damaged hoses and lines are detected.
 -  *Contact your Wacker Neuson dealer immediately*
- Replace the hose or line if one of the problems mentioned below is detected.
 -  *Damaged or leaky hydraulic seals.*
 -  *Worn or torn shells or uncovered reinforcement branches.*
 -  *Expanded shells in several positions.*
 -  *Entangled or crushed movable parts.*
 -  *Foreign bodies jammed or stuck in protective layers.*



NOTICE: Possible equipment damage. Contaminated hydraulic oil, lack of oil, or the wrong hydraulic oil can severely damage the hydraulic system.

- ☞ *Take care to avoid contamination when working.*
- ☞ *Always use the filling screen when refilling hydraulic oil.*
- ☞ *Only use authorized oils of the same type*
 - *see chapter 5.14 "Engine/vehicle fluids and lubricants" on page 5-34.*
- ☞ *Always fill up hydraulic oil before the level gets too low*
 - *see "Filling up hydraulic oil" on page 5-19.*
- ☞ *If the hydraulic system is filled with biodegradable oil, then only use biodegradable oil of the same type for filling up. Observe the label on the hydraulic oil tank.*
- ☞ *Contact your Wacker Neuson dealer immediately if the hydraulic system filter is contaminated with metal shavings.*



Environment

Collect drained hydraulic oil and biodegradable oil in a suitable container!
Dispose of drained oil and used filters by an ecologically safe method.
Always contact the relevant authorities or commercial establishments in charge of oil disposal before disposing of biodegradable oil.

Checking the hydraulic oil level



WARNING

Personal injury hazard. Escaping oil may cause serious injuries.

- ⚠ *Never fill the oil level above the MAX mark.*
- ⚠ *Check the hydraulic oil level each time the machine is put into operation or once a day*



Fig. 84: Oil level gauge

Proceed as follows:

- Park the machine on level ground.
- Retract all hydraulic rams.
- ⚠ Fully dump in the dump bucket.
- Stop the engine.
- Check the oil level on sight glass **A**.
 - A gauge element in sight glass **A** indicates the oil level.

If the oil level is lower

- Add hydraulic oil.

The oil level must be at the **FULL** level.

The oil level varies according to the machine's operating temperature:

Machine condition	Temperature	Oil level
• Before putting into operation	Between 10 and 30 °C (50 and 86 °F)	LOW mark
• Normal operation	Between 50 and 90 °C (122 and 194 °F)	FULL mark



Important

Measure the oil level of the hydraulic system only after the machine reaches its operating temperature.

Filling up hydraulic oil

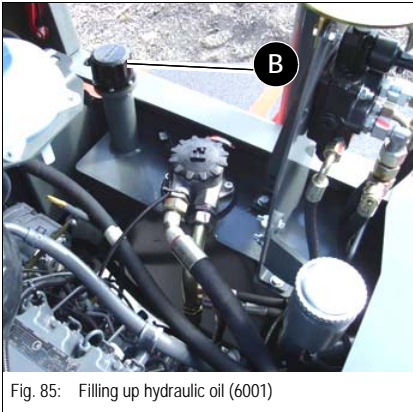


Fig. 85: Filling up hydraulic oil (6001)



WARNING

Personal injury hazard. Removing the hydraulic filter plug may cause pressurized oil to escape. Escaping oil may cause serious injuries.

- ☞ *Allow the hydraulic oil to cool to a temperature that is comfortable to the touch.*
- ☞ *Slightly loosen the breather plug on the hydraulic tank enough to relieve pressure in the tank.*

Do not fill up the hydraulic oil unless the engine is switched off. Otherwise, hydraulic oil will overflow at the filler opening on the hydraulic tank.

☞ *Fill up as follows:*

- Park the machine on level ground.
- Retract all hydraulic rams.
- Stop the engine.
- Clean the area around filler inlet **B** with a cloth.
- Open filler inlet **B**.

With the filter insert in place:

- Add hydraulic oil.
- Check the hydraulic oil level on sight glass **A**.
- Sight glass **A** is located on the left-hand side of the dumper, above the mudguard.
- Fill up if necessary and check again.
- Firmly tighten plug **B**.

Changing hydraulic oil



Important

Only change the hydraulic oil if it is warm (about 50 °C/122 °F).
Lower the dump bucket in center position before draining the oil (dumper in straight-ahead position).



Environment

Dispose of the old hydraulic oil by an ecologically safe method.

- ☞ Open the drain plug to let the oil drain into a container.
- ☞ Check the hydraulic oil tank for contamination and clean if necessary.
- ☞ Replace the filter according to the maintenance specifications.
- ☞ Screw the drain plug back in correctly.
- ☞ Add clean hydraulic oil through the strainer – see *Filling up hydraulic oil* on page 5-21.
- ☞ Close the hydraulic oil tank correctly.
- ☞ Let the machine run at idling speed without load for some minutes.

Fouling indicator for hydraulic oil filter

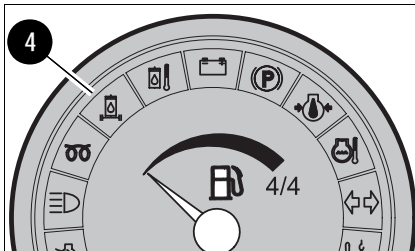


Fig. 86: Fouling indicator for hydraulic oil filter

A red indicator on the instrument panel monitors the filter.

Replace the filter:

- If the indicator comes on when the hydraulic oil is at operating temperature.
- According to the maintenance interval.

In cold weather the indicator can come on immediately when the engine is started. This is caused by increased oil viscosity. In this case:

- ☞ Let the engine run at idling speed for about 2 minutes.

Replacing the hydraulic oil filter element

Proceed as follows:

- ☞ Stop the engine
- ☞ Open cover 1 by about 2 turns and wait until the oil level in the filter housing drops to the oil level in the hydraulic oil tank.
- ☞ Open the cover completely and remove it.
- ☞ Pull filler pipe 2 upward with a slightly turning movement, together with filter element 3.
- ☞ Remove the filter element from the filler pipe and dispose of it.
- ☞ Slide the filler pipe onto the new filter element and insert it in the filter.
- ☞ Tighten the cover by hand.

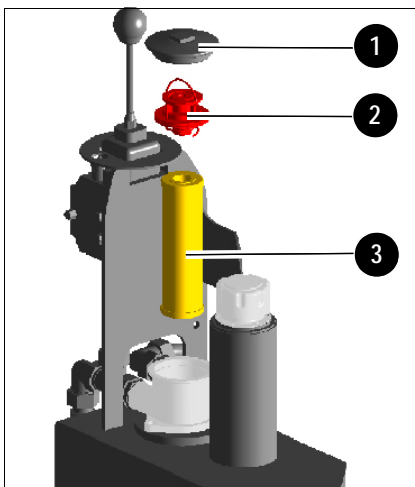


Fig. 88: Hydraulic return filter



Important information for the use of biodegradable oil

- Use only the biodegradable hydraulic fluids which have been tested and approved by Wacker Neuson Linz GmbH. Always contact Wacker Neuson Linz GmbH for the use of other products which have not been recommended. In addition, ask the oil supplier for a written declaration of guarantee. This guarantee is applicable to damage occurring on the hydraulic components, which can be proved to be due to the hydraulic fluid.
 - Use only biodegradable oil of the same type for filling up. In order to avoid misunderstandings, a label providing clear information is located on the hydraulic oil tank (next to the filler inlet) regarding the type of oil currently used! Replace missing labels! The joint use of two different biodegradable oils can affect the quality of one of the oil types. Therefore, make sure the remaining amount of initial hydraulic fluid in the hydraulic system does not exceed 8 % when changing biodegradable oil (manufacturer indications).
 - Do not fill up with mineral oil—the content of mineral oil should not exceed 2 % in order to avoid foaming problems and to ensure biological degradability.
 - When running the machine with biodegradable oil, the same oil and filter replacement intervals are valid as for mineral oil – *see chapter 5.14 Maintenance plan (overview)* on page 5-35.
 - Always have the condensation water in the hydraulic oil tank drained by an authorized service facility before the cold season. The water content may not exceed 0.1 % by weight.
 - The instructions in this Operator's Manual concerning environmental protection are also valid for the use of biodegradable oil.
 - If additional hydraulic attachments are mounted or operated, use the same type of biodegradable oil for these attachments to avoid mixtures in the hydraulic system.
- Subsequent change from mineral oil to biodegradable oil must be performed by an authorized Wacker Neuson service facility.

Checking hydraulic pressure lines

Specific safety instructions



WARNING

Pressurized hydraulic oil hazard. Hydraulic oil escaping under high pressure can catch fire, damage property, penetrate the skin and cause severe burns and injuries.

- ❗ *Do not operate the machine with leaking or damaged hydraulic system components.*
- ❗ *Use a piece of cardboard to diagnose the source of hydraulic leaks.*
- ❗ *Hydraulic oil can be hot and may cause serious burns if contact is made with skin. If contact occurs with hot oil, seek immediate medical attention and treatment for the burn.*
- ❗ *Wear safety glasses to avoid eye contact. If oil contacts the eye flush immediately with clean water and seek emergency medical treatment.*
- ❗ *Seek immediate medical attention if oil penetrates the skin. Oil may cause serious infections.*
- ❗ *Retighten leaking threaded fittings and hose connections only when the system is not under pressure; i.e. release the pressure before working on pressurized lines.*
- ❗ *Never weld or solder damaged or leaking pressure lines and threaded fittings. Replace damaged parts with new ones.*
- ❗ *Do not check for leaks with an incandescent light or open flame due to explosive fire risk from vaporized oil mist.*

- Leaks and damaged pressure lines must be immediately repaired or replaced by an authorized service facility or after-sales staff.
This not only increases the operating safety of your machine but also helps to protect the environment.
- Replace hydraulic hoses every 6 years from the date of manufacture, even if they do not seem to be damaged.

In this respect, we recommend that you observe all the relevant safety regulations for hydraulic lines, as well as the safety regulations regarding accident prevention and occupational health and safety in your country. Also observe DIN 20066, part 5.

5.9 Tires



Fig. 89: Tires

Tire wear can vary according to work and ground conditions.



CAUTION

Personal injury hazard. Improperly repaired tires or rims may cause accidents.

All repair work on tires and rims may only be performed by an authorized Wacker Neuson service facility.

We recommend checking the tires for wear and the wheel nuts for tightness once a day.

Park the machine on firm and level ground to check and perform maintenance.



Important

Checking the tires at regular intervals increases operational safety and the service life of the tires, and reduces machine downtimes. Please refer to [Chapter 6.11 "Tires"](#) for the authorized tire types and the correct tire pressures.



Important

Replace tires with new ones after 6 years (irrespective of wear) and dispose of them correctly. After this period, the rubber no longer has its full capability due to various chemical and physical processes.

Inspection work

Perform the following maintenance work once a day:

- Visual check of the tire condition.
- Check the tire pressure.
- Check tire and rim (outside and inside) for damage.
- Check for wear.
- Remove foreign bodies from the tire tread.
- Remove traces of oil and grease from the tires.



Wheel change

NOTICE: The wheels are heavy and may damage the threads on the wheel studs if they are handled incorrectly.

☞ *Use suitable assembly tools, such as covering sleeves for the studs and a jack capable of handling the load.*

Removing the wheels

Proceed as follows:

☞ *Park the machine on level and firm ground and prevent it from rolling away.*

☞ *Slightly loosen the wheel nuts of the wheel you want to remove.*

☞ *Place a jack under the axle body, making sure it is standing firmly.*

☞ *Raise the side of the axle from which you want to remove the wheel.*

☞ *Check the machine is standing firmly.*

☞ *Completely remove the wheel nuts.*

☞ *Remove the wheel.*

Fitting the wheels

Proceed as follows:

☞ *Place the wheel onto the wheel studs.*

☞ *Tighten all wheel nuts part-way.*

☞ *Lower the raised axle.*

☞ *Tighten the wheel nuts to the prescribed torque of 460 Nm (339 ft. lbs.).*

NOTICE:



Important

Subsequent to changing wheels check the wheel nuts for tightness after 10 service hours—tighten if necessary!

5.10 Axles



CAUTION

Burn hazard. The axle housings can be very hot immediately after operating the dumper.

⚠ *Do not perform any work on the axles until the housings are cool to the touch.*

⚠ *Slowly open filler plug A to release the pressure inside.*

Checking the oil level and filling up oil



Fig. 90: Checking the oil level

⚠ *Park the machine on firm and level ground.*

⚠ *Place the machine so that filler plug A is at the left.*

⚠ *Remove the starter key.*

⚠ *Unscrew screws A.*

➡ *The oil must be level with opening A.*

➡ *If the oil level is lower*

⚠ *Fill in oil through opening A until it flows out slightly.*

⚠ *Screw screws A back in again.*

⚠ *Move the machine a few meters.*

Draining oil

⚠ *Park the machine on firm and level ground*

⚠ *Place the machine so that filler plug A is at the bottom*

⚠ *Remove the starter key*

⚠ *Unscrew screws A*

➡ *The oil now flows out of opening A*

⚠ *Use a suitable container to collect the oil as it drains*



Environment

Collect the oil with a suitable container and dispose of it in an environmentally friendly manner.





5.11 Electric system

Specific safety instructions









WARNING

Batteries can explode or cause chemical burns. A battery contains sulfuric acid and emits explosive gases when heavily discharged.

-  *Do not smoke or use an open flame near the battery.*
-  *Do not handle the battery recklessly, causing acid to leak or spill.*
-  *Do not add circuits or electrical accessories that exceed the system capacity.*
-  *Do not connect a circuit without a correctly-rated fuse or circuit breaker.*


NOTICE: Possible equipment damage from improper battery connections.

-  *When connecting the battery leads, make sure the poles +/– are not inverted, otherwise sensitive electric components will be damaged.*
-  *Use only 12 V power sources. Higher voltages will damage the electric components.*
-  *Do not interrupt voltage-carrying circuits at the battery terminals because of the danger of sparking.*
-  *To prevent short circuits, never place tools or other conductive articles on the battery.*
-  *Disconnect the negative (–) battery terminal from the battery before starting repair work on the electric system.*
-  *Dispose of used batteries properly.*


Service and maintenance work at regular intervals

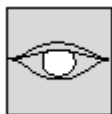


Before driving the machine

-  *Check every time before driving the machine:*
 - Is the light system OK?
 - Is the signaling and warning system OK?

Every week

-  *Check once a week:*
 - Cable and earth connections.
 - Battery charge condition – [see Battery](#) on page 5-30.
 - Condition of battery terminals.





Instructions concerning specific components

Cables, bulbs and fuses

Always observe the following instructions:

- Defective components of the electric system must always be replaced by an authorized expert.
- When performing maintenance work on the electric system, pay particular attention to ensuring good contact in leads

Alternator

Always observe the following instructions:

- Only test run the engine when the battery is connected.
- When connecting the battery, make sure the poles (+/-) are not inverted
- Always disconnect the battery before performing welding work or connecting a quick battery charger

Battery



Fig. 91: Battery (6001 machines)



WARNING

Battery acid hazard. The battery contains highly caustic sulphuric acid. This acid must not be allowed to come into contact with the skin, the eyes, clothing or the machine.

- ☞ *When recharging and/or working near the battery, always wear protective glasses and protective clothing with long sleeves.*
- ☞ *If acid is spilled, thoroughly rinse affected skin immediately with clean water and seek medical attention immediately.*



WARNING

Battery explosion hazard. Lead acid batteries can generate a potentially explosive hydrogen and oxygen mixture. Batteries can explode or rupture during jump starting, particularly if the electrolyte is low or has been frozen.

- ☞ *Avoid open flames and sparks in the vicinity of the battery. Do not smoke.*
- ☞ *Before jump-starting, take the battery to the dealer for appraisal by a qualified technician.*
- ☞ *Replace a dead battery with a new one equivalent to the original.*
- ☞ *Always disconnect the negative terminal (-) from the battery before starting repair work on the electric system.*



Important

Do not disconnect the battery while the engine is running.



5.12 General maintenance work

Cleaning

Cleaning the machine is divided into 2 separate areas:

- Exterior of the machine
- Engine compartment

The wrong choice of cleaning equipment and agents may impair the operating safety of the machine and undermine the health of the persons in charge of cleaning the machine. It is therefore essential to observe the following instructions.

General instructions for all areas of the machine

When using washing solvents

- Ensure adequate room ventilation.
- Wear suitable protective clothing.
- Do not use flammable liquids, such as fuel.

When using compressed air

- Work carefully.
- Wear protective glasses and clothing.
- Do not aim the compressed air at the skin or at other people.
- Do not use compressed air for cleaning your clothing.

When using a high-pressure cleaner or steam jet

- Electric components and damping material must be covered and not directly exposed to the jet.
- Cover the vent filter on the hydraulic oil tank and the filler caps for fuel, hydraulic oil, etc.
- Protect the following components from moisture:
 - Engine
 - Electric components such as the alternator, etc.
 - Control devices and seals
 - Air intake filters, etc.

When using volatile and easily flammable anticorrosion agents and sprays:

- Ensure adequate room ventilation.
- Do not use unprotected lights or naked flames.
- Do not smoke!

Exterior of the machine

NOTICE: Cleaning the machine improperly may cause engine damage.

☞ *Follow the recommendations below to properly clean the machine and the engine.*

The following articles are generally suitable:

- High-pressure cleaner
- Steam jet

Engine compartment



CAUTION

Crushing, cutting, or burn hazards.

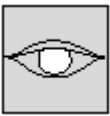
☞ *Stop the engine before cleaning.*

NOTICE: Possible sensor damage. Water or steam jet cleaners can penetrate sensitive electronic components, leading to sensor failure and possible engine damage.

☞ *Allow the machine to cool completely before cleaning the engine with a water or steam jet.*

☞ *Do not point the jet directly at electric sensors such as the oil pressure switch.*

Threaded fittings and attachments



All threaded fittings must be checked regularly for tightness, even if they are not listed in the maintenance schedules.

☞ *Engine fastening screws.*

☞ *Fastening screws on the hydraulic system.*

☞ *Line and pin fastenings on the attachment.*

Retighten loose connections immediately. Contact an authorized service facility if necessary.

Pivots and hinges



Lubricate all mechanical pivots on the machine (such as joints) and fittings at regular intervals even if they are not listed in the lubrication plan.



5.13 Fluids and lubricants

Component/application		Engine/machine fluid	Specification	Season/temperature	Capacities ¹
Diesel engine		Engine oil	API CD, CF, CF-4, CI-4	-15 °C (5 °F) +45 °C (113 °F)	10 l (2.6 gal)
Hydraulic oil tank		Hydraulic oil	HVLP46 ² 200 Hydraulic	Year-round	70 l (18.5 gal)
		Biodegradable oil ³	PANOLIN HLP Synth 46		
			FINA BIOHYDRAN SE 46		
			BP BIOHYD SE-46 404 Biodegradeable Hydraulic 32/46		
All lubrication points			FINA Energrease L21M Mobilgrease CM-P	Year-round	As required
Battery terminals		Acid-proof grease ⁴	FINA Marson L2 Mobilux EP2	Year-round	As required
Fuel tank		Diesel fuel	No. 2-D, DIN 51601 grade	Over 4 °C (39.2 °F)	70 l 18.5 (gal)
			No. 1-D, DIN 51601 grade	Below 4 °C (39.2 °F)	
Radiator		Coolant	Water + antifreeze; SP-C	Year-round	8.50 l (2.2 gal)
Axles (5001)					
Front axle	Differential	Gearbox oil	LS85W90	Once a year or every 1000 s/h	3.8 l (1 gal)
	Semiaxle				0.9 l (0.24 gal)
Rear axle	Differential	Gearbox oil	LS85W90	Once a year or every 1000 s/h	4.7 l (1.24 gal)
	Semiaxle				0.9 l (0.24 gal)
	Transfer gearbox				0.9 l (0.24 gal)
AXLES (6001)					
Front axle	Differential	Gearbox oil	LS85W90	Once a year or every 1000 s/h	7.9 l (2.1 gal)
	Semiaxle				0.85 l (0.2 gal)
Rear axle	Differential	Gearbox oil	LS85W90	Once a year or every 1000 s/h	5.6 l (1.5 gal)
	Semiaxle				0.9 l (0.24 gal)
	Transfer gearbox				0.85 l (0.2 gal)

1. The capacities indicated are approximative values; the oil level check alone is relevant for the correct oil level

1. Capacities indicated are no system fills

2. According to DIN 51524 section 3

3. Hydraulic ester oils (HEES)

4. Standard acid-proof grease



Oil grades for the diesel engine, depending on temperature

Engine oil grade	Ambient temperature (C°)														
	°C	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	
		SAE 10W													
				SAE 20W											
		SAE 10W-30													
		SAE 15W-40													
API CD, CF, CF-4, CI-4															
SAE ¹ E3, E4, E5						SAE 20									
								SAE 30							
										SAE 40					
	°F	-4	5	14	23	32	41	50	59	68	77	86	95	104	

1. According to DIN 51511

5.14 Maintenance plan (overview)

Work description

For service and maintenance work on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer as well.

Maintenance plan/service hours (s/h)

Fluid and filter changes ():

Perform the following oil and filter changes (check oil levels after test run):

• Engine oil ¹		•	•			
• Engine oil filter ²		•	•			
• Fuel filter ³		•	•			
• Air filter element			•			
• Coolant				•		
• Hydraulic oil filter insert ⁴		•	•			
• Hydraulic oil			•			
• Hydraulic oil tank breather				•		

Inspection work ():

Check the following material. Refill if necessary:


• Engine oil	•					•
• Engine coolant	•					•
• Hydraulic oil	•					•
Clean the water ducts ⁵				•		
Check radiator for engine and hydraulic oil for contamination. Clean if necessary	•					•
Check cooling systems, heating and hoses for leaks and pressure (visual check)	•					•
Air filter (damage)	•					•
Check the air filter, clean if necessary	•					•
Prefilter with water separator: drain water	•					•
• Clean			•			
Check V-belt condition and tension	•					•
Check V-belt condition and tension	•					•



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Maintenance



5.14 Maintenance plan (overview)	Maintenance plan/service hours (s/h)					
	Maintenance work (once a day)	Every 50 s/h	Every 500 s/h	Once a year or after 1000 s/h	After 1500 s/h	Customer
Work description						
For service and maintenance work on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer as well.						
Check exhaust system for damage and condition	●					●
Check valve clearance, adjust if necessary				●		
Fuel injection pump					●	
Injection and pressure				●		
Check injection nozzles and valves ⁶					●	
Empty diesel fuel tank			●			
Check battery electrolyte. Fill up with distilled water if necessary		●	●			●
Tire check (damage, air pressure, tread depth)	●					●
Wheel nuts		●				●
Check alternator, starter and electric connections, bearing play and function			●			
Preheating system, electric connections			●			
Pressure check of primary pressure limiting valves ⁷		●	●			
Check piston rods for damage	●					●
Check screws for tightness		●	●			
Pin lock	●					●
Line fixtures	●					●
Check indicators for correct function		●	●			
Insulating mats in engine compartment		●	●			
Cleanliness of access	●					●
Adhesive labels and Operator's Manual		●	●			
Engine cover gas strut	●					●
Lubrication service ():						



5.14 Maintenance plan (overview)

Work description

For service and maintenance work on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer as well.

Lubricate the following assemblies/components – [see Lubrication plan 5001](#) on page 5-38:

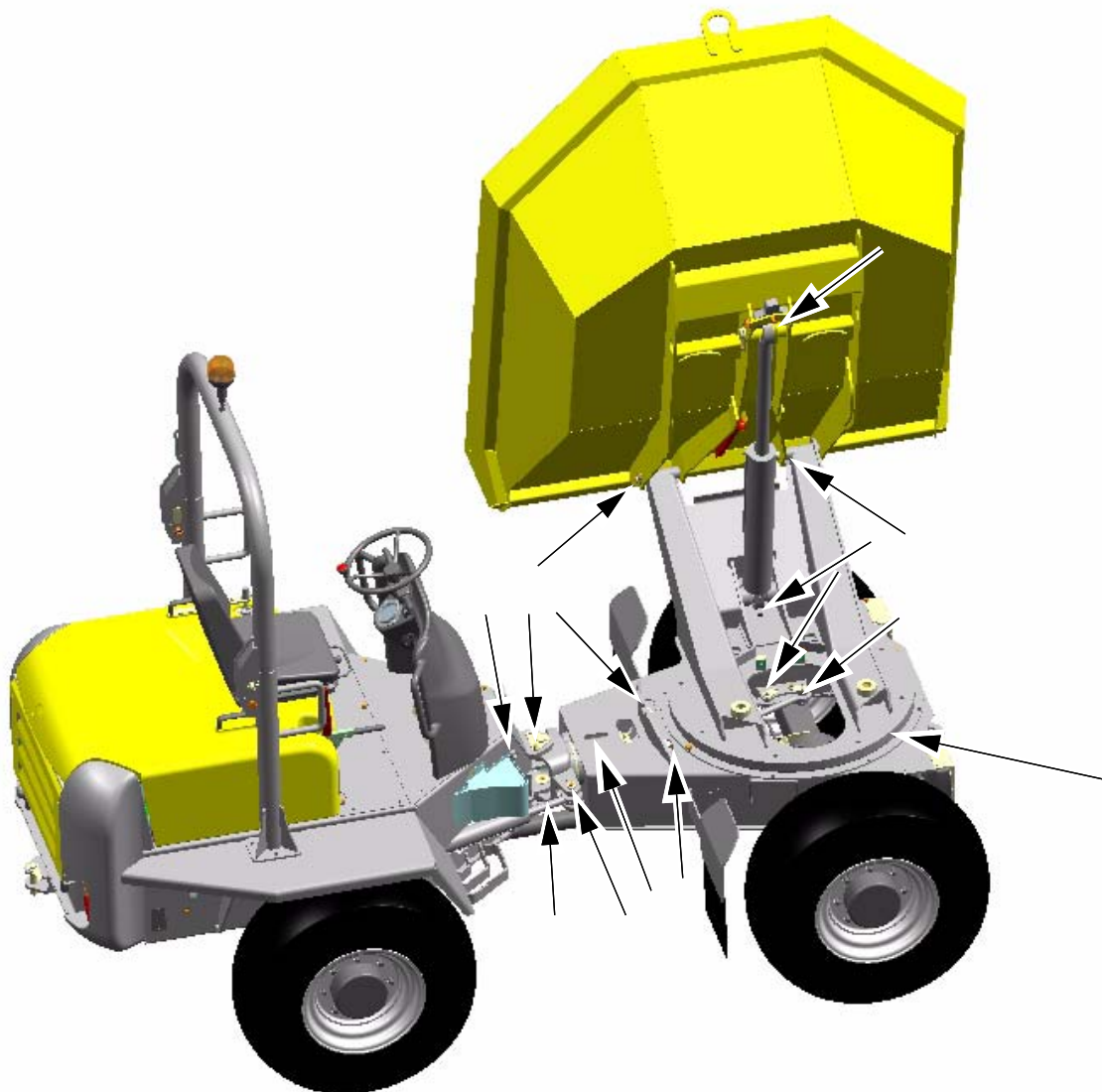
	Maintenance plan/service hours (s/h)					
	Maintenance work (once a day)	Every 50 s/h	Every 500 s/h	Once a year or after 1000 s/h	After 1500 s/h	Customer
• Steering ram	●					●
• Tilt ram – offset ram	●					●
• Articulated joint	●					●

1. Drain engine oil the first time after 50 s/h, then every 250 s/h
2. Replace the engine oil filter the first time after 50 s/h, then every 250 s/h
3. Replace the fuel filter the first time after 50 s/h, then every 250 s/h
4. Replace the hydraulic oil filter insert the first time after 50 s/h, then every 500 s/h
5. Clean the water ducts every other 1000 s/h servicing
6. Check the injection nozzles and the valves every other 1500 s/h servicing
7. Check the first time at 50 s/h, then every 500 s/h

5.15 Lubrication plan 5001

Grease all lubrication points daily! Use ENERGREASE L21M.

Fold down the red maintenance strut before you perform maintenance work with the dump bucket dumped out – [see chapter 5.2 Maintenance strut](#) on page 5-2. Lubricate all points daily with FINA Energrease L21M or Mobilgrease CM-P.

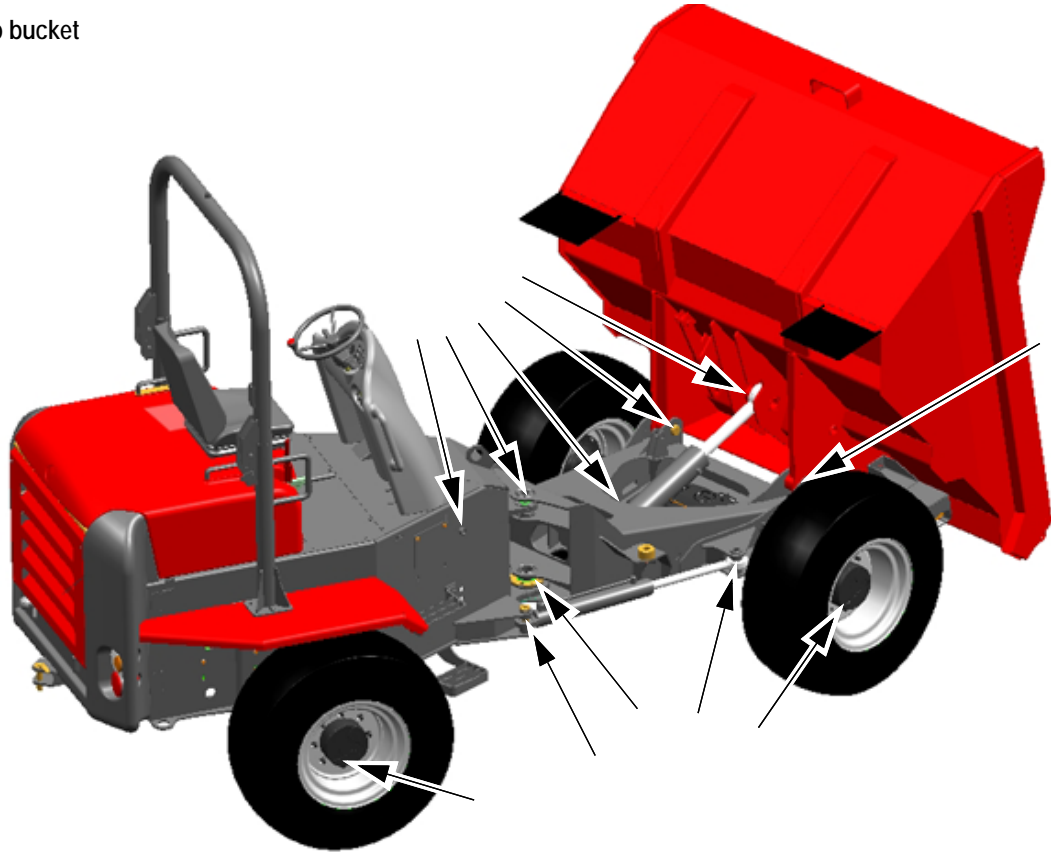


5.16 Lubrication plan 6001

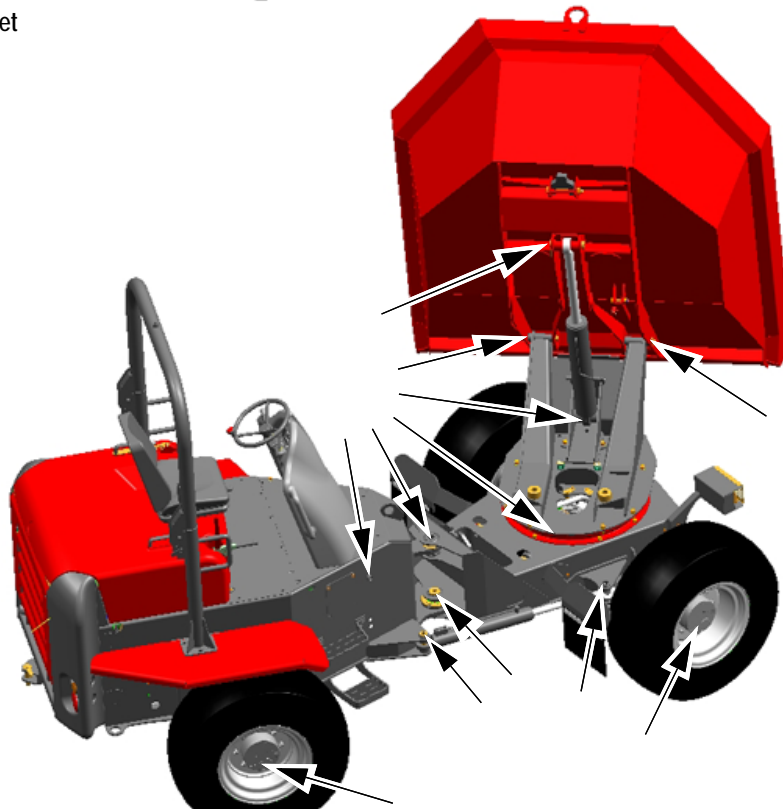
Grease all lubrication points daily! Use ENERGREASE L21M.

Fold down the red maintenance strut before you perform maintenance work with the dump bucket dumped out – [see chapter 5.2 Maintenance strut](#) on page 5-2. Lubricate all points daily with FINA Energ grease L21M or Mobilgrease CM-P.

Front dump bucket



Swivel dump bucket







6 Specifications

6.1 Chassis

Sturdy steel sheet chassis, rubber-mounted engine

6.2 Engine

The measurements are Metric (Imperial).

Engine	Model 5001	Model 6001
	From serial number AD51001	From serial number AD60001
Product	Deutz diesel engine	Deutz diesel engine
Type	D2011 L04	TD2011 L04
Design	Water-cooled 4 stroke diesel engine	Water-cooled 4 stroke diesel engine
No. of cylinders	4	4
Displacement	3619 cm ³ (220.8 in ³)	3619 cm ³ (220.8 in ³)
Nominal bore and stroke	96 x 125 mm (3.8" x 4.9")	96 x 125 mm (3.8" x 4.9")
Output	47.5 kW (64 hp) +/- 5 % at 2600 rpm	64.6 kW (87 hp) at 2600 rpm
Interm. torque	200 Nm (148 ft.lbs.) at 1600 rpm	266 Nm (196 ft.lbs.) at 1600 rpm
Max. engine speed without load	2600 rpm +/- 25 rpm	2660 rpm +/- 25 rpm
Idling speed	~ 900 rpm +/- 25 rpm	~ 900 rpm +/- 25 rpm
Fuel injection system	Direct injection	Direct injection
Starting aid	Glow plugs	Glow plugs
Max. inclined position (engine no longer supplied with oil):	30° in all directions	30° in all directions
Exhaust values according to	Tier 3	Tier 3

6.3 Drive Pump

Variable displacement pump	Model 5001	Model 6001
Design	Axial piston pump	Axial piston pump
Displacement	56 cm ³ /rev (3.4 in ³ /rev)	71 cm ³ /rev (4.3 in ³ /rev)
Flow rate	146 l/min (38.6 gal/min)	184 l/min (48.6 gal/min)
Max. service pressure	450 bar (6526 psi)	450 bar (6526 psi)
Boost pump (integrated in variable displacement pump)		
Design	Gear pump	Gear pump
Displacement	11.6 cm ³ (0.7 in ³)	19.6 cm ³ (1.2 in ³)
Charging/boost pressure	25 bar (362.6 psi) ¹	25 bar (362.6 psi) ¹



6.4 Brakes

Service brake	
Design	Wet hydraulically actuated multidisc brake
Location	Front axle
Effect	Hydraulic pedal-actuated single-circuit brake.
Parking brake	
Design	Wet mechanically actuated multidisc brake
Location	Front axle
Effect	Wet multi-disc brake, mechanically actuated via Bowden cable and eccentric shaft

6.5 Steering system

Steering system	Model 5001/6001
Design	Hydrostatic chassis articulation steering with emergency steering features
Steering mode	Chassis articulation steering

6.6 Work hydraulics

Work hydraulics	Model 5001	Model 6001
Hydraulic pump displacement	17 cm ³ /rev (1 cu in/rev)	22 cm ³ /rev (1.3 cu in/rev)
Hydraulic pump flow rate	44 l/min (12 gal/min)	57 l/min (15 gal/min)
Max. service pressure	200 bar (2900 psi)	220 bar (3191 psi)
Hydraulic oil tank capacity	48 l (13 gal)	70 l (18.5 gal)
Steering system	150 bar (2175.5 psi)	150 bar (2175.5 psi)

6.7 Dump bucket

Dump bucket	Model 5001	Model 6001F	Model 6001S
Dump bucket capacity	2000 l (528 gal) struck	2400 l struck (634 gal)	
	2700 l (713 gal) heaped	3200 l heaped (845 gal)	
	1400 l (370 gal) liquid capacity	1880 l (496.6 gal) liquid capacity	
Payload	5000 kg (11023 lbs.)	6000 kg (13227.7 lbs.)	
Swivel angle	180 – 217°	-180 – 213°	



6.8 Drive specifications

Steering system	Model 5001	Model 6001
Travel speed I	0 – 8 kph (0 – 5 mph)	0 – 5 kph (0-3.1 mph)
Travel speed II	0 – 25 kph (0 – 15.5 mph)	0 – 25 kph (0 – 15.5 mph)
Articulation	+/- 37°	+/- 33°
Oscillation	+/- 15°	
Outside turning radius	4100 mm (13' 5")	5200 mm (17' 1")
Hill climbing ability	50 % (theoretically)	
Safe authorized inclination	25 % in all drive positions left/right	

6.9 Electric system 5001

Electric system	
Alternator	12 V 55 A
Starter	12 V 2.6 kW
Battery	12 V 88 Ah

Fuse box

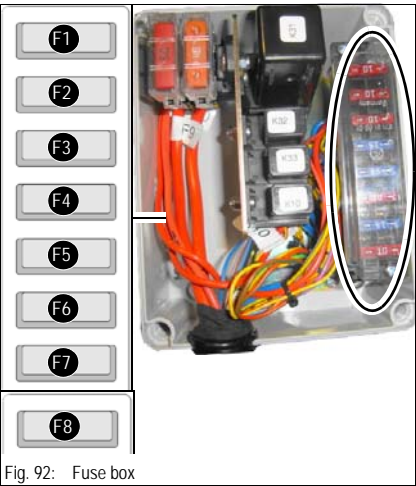


Fig. 92: Fuse box

Fuse	Rated current (A)	Protected circuit
F 1	10 A	– Instrument panel, fuel supply
F 2	10 A	– Drive solenoid valves
F 3	10 A	– Horn, brake lights
F 4	15 A	– Turn indicators
F 5	15 A	– High beam
F 6	10 A	– Low beam
F 7	15A	– Clearance light
F8	10 A	– Hazard warning system

Relays

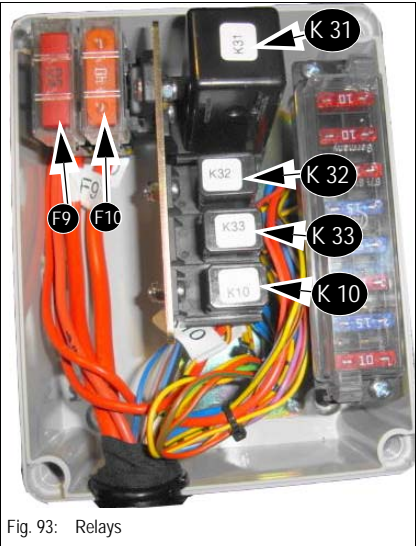


Fig. 93: Relays

The relays are located in the relay box under the the floor panel of the control stand

Switching relay no.	Protected circuit
F 9, F10	– Main fuses (50 A)
K 31	– Turn indicator relay
K 32	– High beam relay
K 33	– Low beam relay
K 31	– Start relay

6.10 Electric system 6001

Electric system	
Alternator	12 V 55 A
Starter	12 V 2.3 kW
Battery	12 V 100 Ah

Fuse box

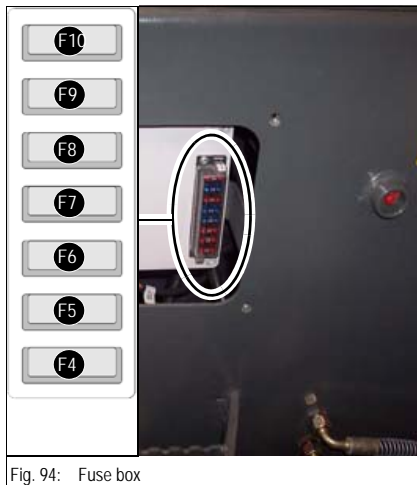


Fig. 94: Fuse box

Fuse	Rated current (A)	Protected circuit
F 4	10 A	– Preheating
F 5	15 A	– Drive solenoid valves
F 6	10 A	– Horn, brake lights
F 7	15 A	– Turn indicators
F 8	15 A	– High beam
F 9	10 A	– Low beam
F 10	10 A	– Clearance light
F 11	10 A	– Hazard warning system

Relays

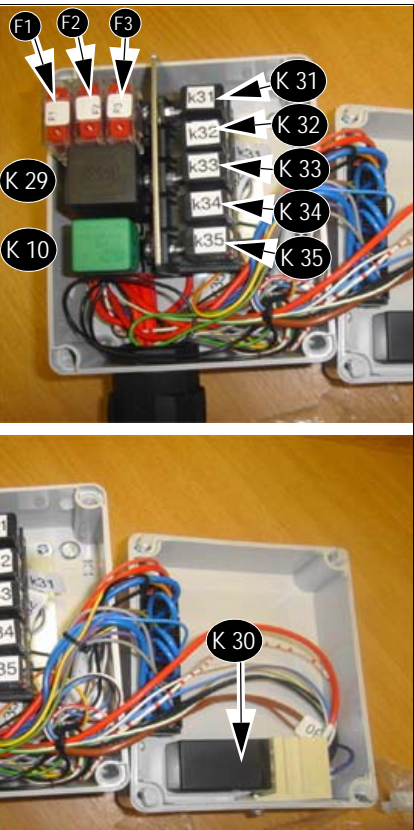


Fig. 95: Relays

The relays are located in the relay box under the the floor panel of the control stand

Switching relay no.	Protected circuit
F 1, F2, F3	– Main fuses (50 A)
K 10	– Turn indicator relay
K 29	– Preheating relay
K 30	– Deutz preheating time relay
K 31	– Low beam relay
K 32	– Preheating indicator relay
K 33	– High beam relay
K 34	– Parking brake indicator relay
K 35	– Start interlock relay



6.11 Tires

Type	Tire size	Tire pressure		Load-bearing capacity
		Front	Rear	
5001	12.5-18 12 Ply	4 bar (58 psi)	4 bar (58 psi)	PR 12
6001	405/70-20 14 Ply	3.25 bar (47 psi)	3.25 bar (47 psi)	PR 14

6.12 Noise levels

Sound power level	Model 5001	Model 6001
Sound power level (L _{WA})	101 dB (A)	102 dB (A)



Important

Measurement of sound power level according to EC Directive 2000/14 EC.
Noise level at the operator's ear measured according to EC Directives 84/532/EEC, 89/514/EEC and 95/27/EEC.
Measurements performed on asphalted surface.

6.13 Coolant compound table

Outside temperature	Coolant			
	Water	Anticorrosion agent		Antifreeze agent
Up to °C(°F)	% by volume	cm ³ /l (oz/gal)	% by volume	% by volume
4 (39.2)	99	10 (1.28)	1	–
-10 (14)	79			20
-20 (-4)	65			34
-25 (-13)	59			40
-30 (-22)	55			44

6.14 Dimensions model 5001

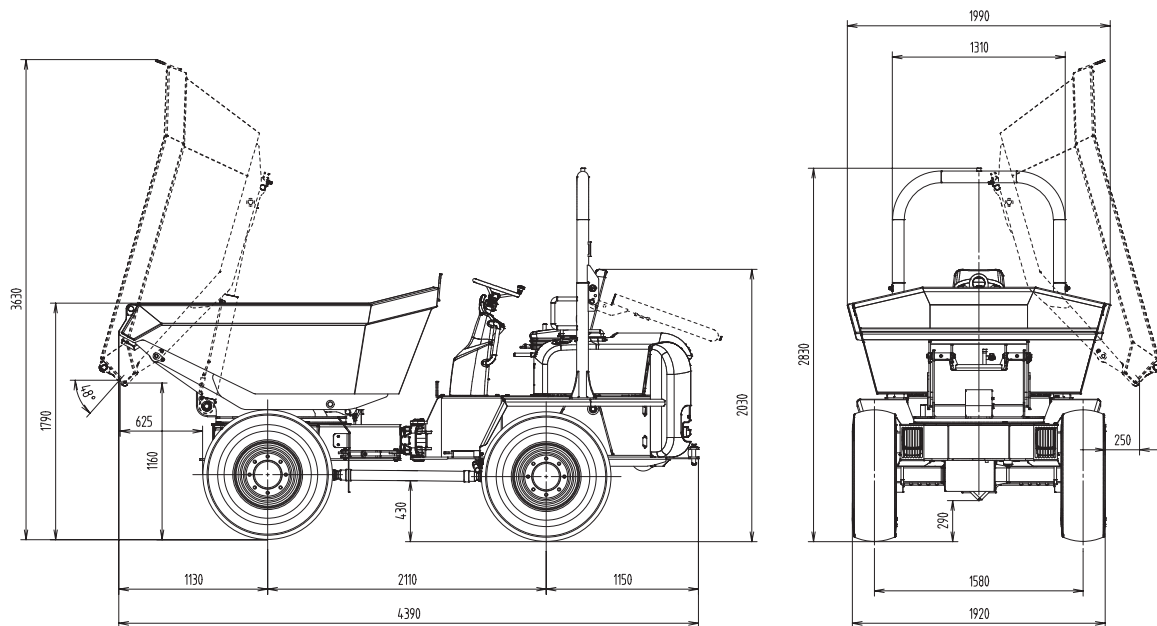


Fig. 96: Machine dimensions (model 5001)

Main data	Model 5001
Dead weight	4750 kg (7099 lbs.)
Overall height	2830 mm (9' 3")
Overall height with dumped-out dump bucket	3630 mm (8' 6")
Overall height without rollbar	2030 mm (6' 7")
Overall width	1920 mm (6' 3")
Ground clearance	290 mm (1')
Wheelbase	2110 mm (6' 9")
Outside turning radius	4100 mm (13' 5")
Hill climbing ability	50 % theoretically
Safe authorized inclination	25 % in all drive positions

6.15 Dimensions model 6001F (front dump bucket)

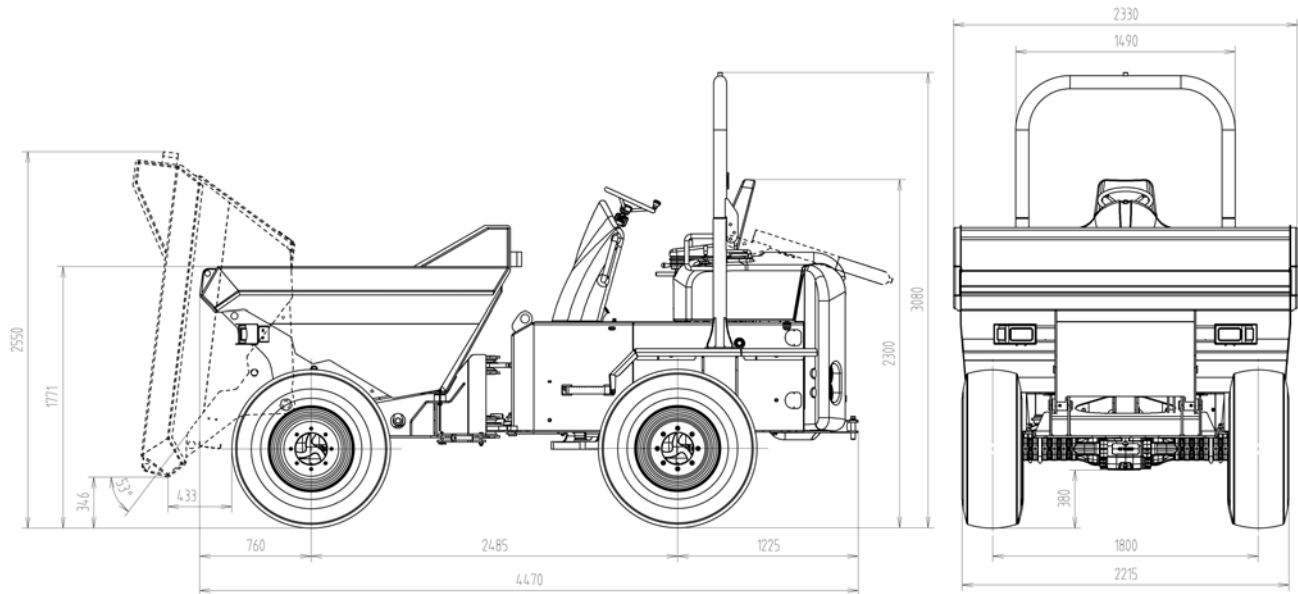


Fig. 97: Machine dimensions (model 6001F)

Main data	Model 6001F
Dead weight	4120 kg (9083 lbs.)
Overall height	3080 mm (10' 1")
Overall height with dumped-out dump bucket	2550 mm (8' 4")
Overall height without rollbar	2300 mm (7' 6")
Overall width	2215 mm (7' 3")
Ground clearance	380 mm (1' 3")
Wheelbase	2485 mm (8' 2")
Outside turning radius	5500 mm (18' 1")
Hill climbing ability	50 % theoretically
Safe authorized inclination	25 % in all drive positions

6.16 Dimensions model 6001S (swivel dump bucket)

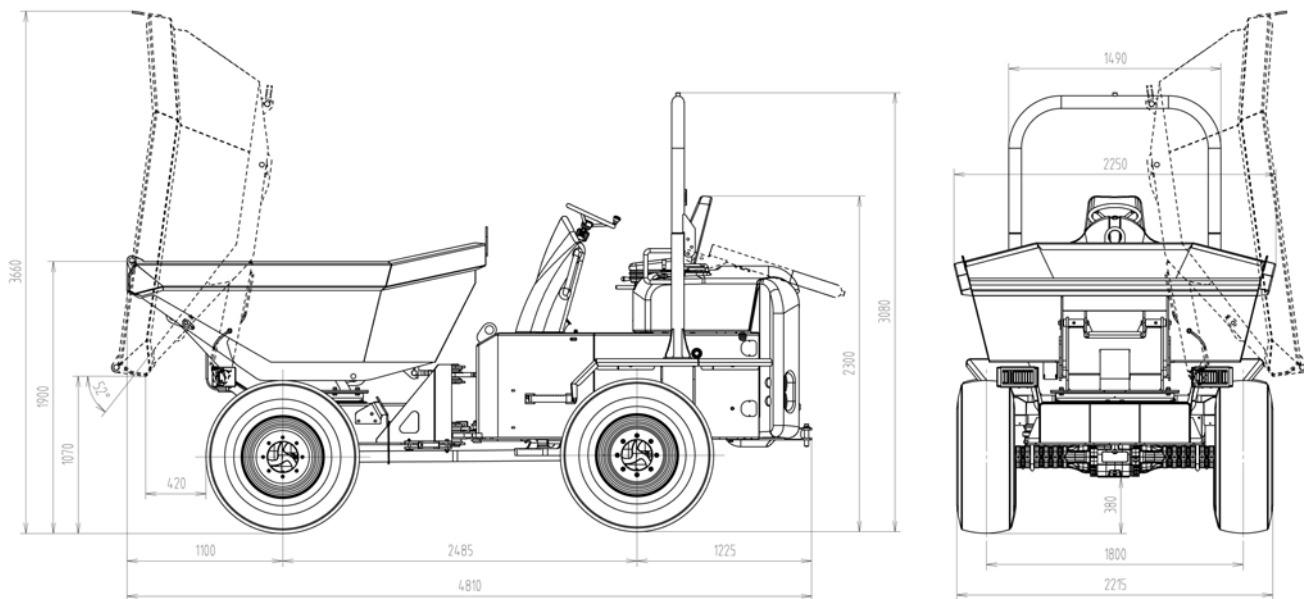


Fig. 98: Machine dimensions (model 6001S)

Main data	Model 6001S
Dead weight	4240 kg (9348 lbs.)
Overall height	3080 mm (10' 1")
Overall height with dumped-out dump bucket	3660 mm (12')
Overall height without rollbar	2300 mm (7' 7")
Overall width	2215 mm (7' 3")
Ground clearance	380 mm (15")
Wheelbase	2485 mm (8' 2")
Outside turning radius	5500 mm (18' 1")
Hill climbing ability	50 % theoretically
Safe authorized inclination	25 % in all drive positions

6.17 Dimensions model 6001S (swivel dump bucket) with cab

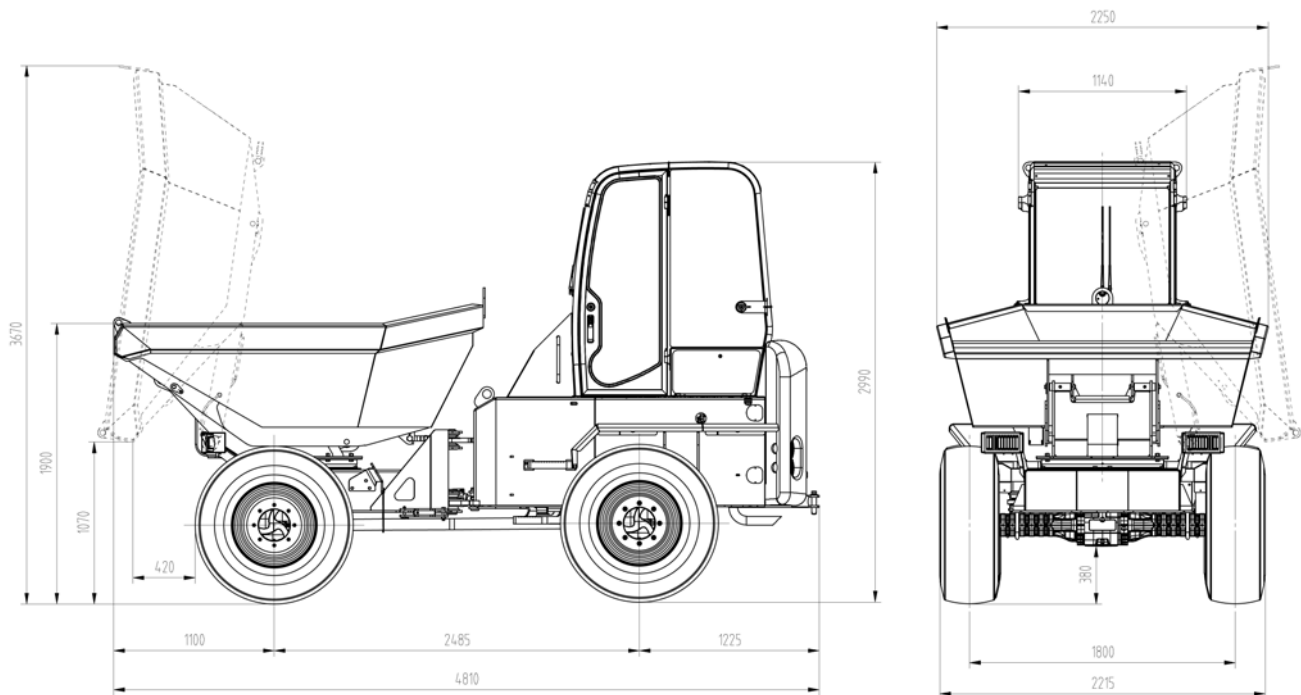


Fig. 99: Machine dimensions (model 6001S with cab)

Main data	Model 6001S
Dead weight	4320 kg (9524 lbs.)
Overall height	2990 mm (9' 10")
Overall height with dumped-out dump bucket	3670 mm (12')
Overall height without cab	2300 mm (7' 7")
Overall width	2215 mm (7' 3")
Ground clearance	380 mm (15")
Wheelbase	2485 mm (8' 2")
Outside turning radius	5500 mm (18' 1")
Hill climbing ability	50 % theoretically
Safe authorized inclination	25 % in all drive positions

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